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CoEVOLUTION
Quarterly

No. 24 Winter 1979/80 $3.50

FACTORY
By Antler

Page 4-17

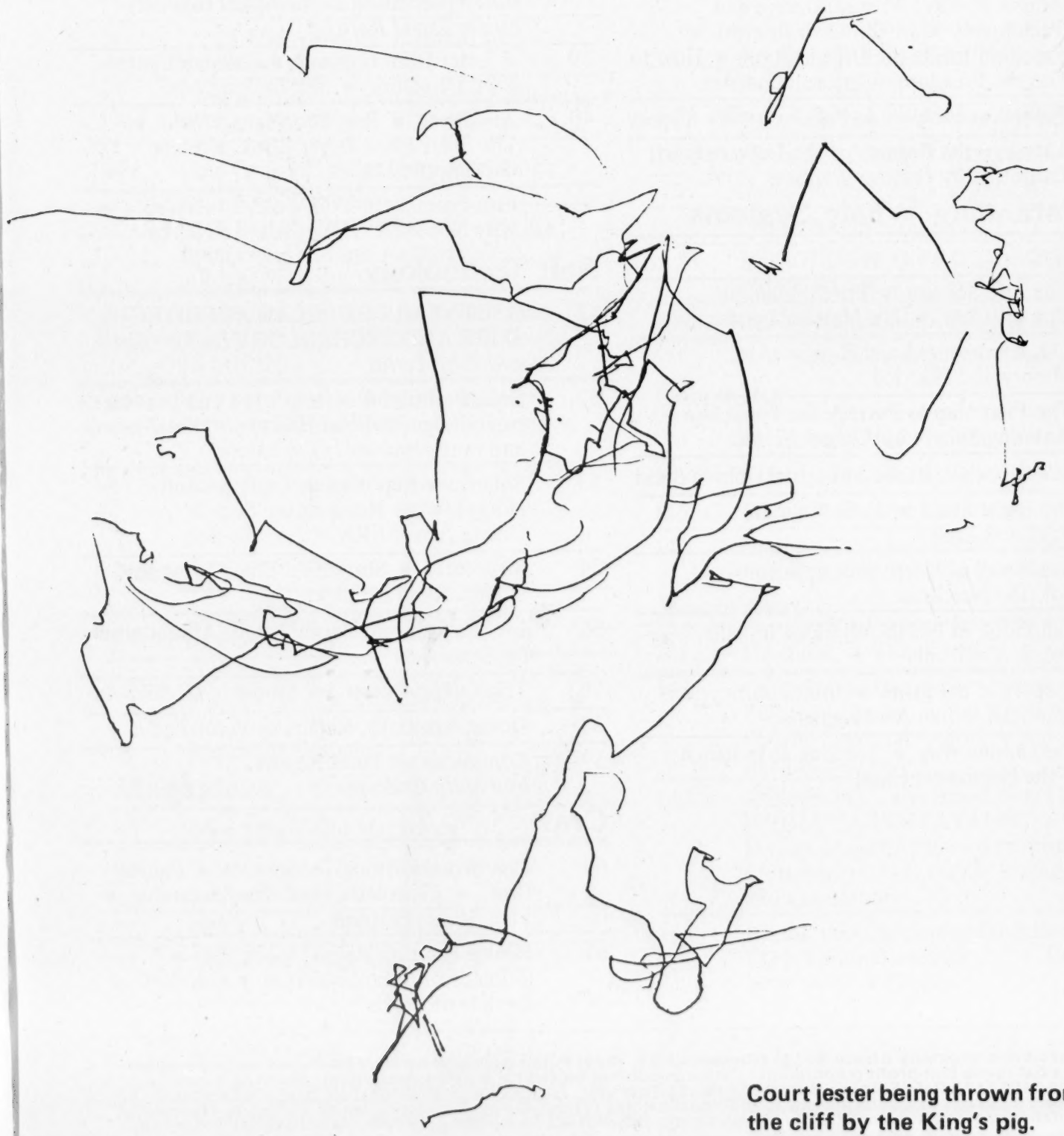
Grandma sneezing

Roadrunner, standing next to beaver, makes an observation regarding the nature of the times. Beaver doesn't answer. He's watching maple leaves fall, leaf by leaf.

CAT ART

Simba (14 yrs. old) likes to scratch her head on my pen whenever I write in my journal. So I give her a page and let her scratch away, while I look out the window. Later I put a caption on it.

Fred Schowalter
Oakland, California



Court jester being thrown from the cliff by the King's pig.

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Cover

R. Crumb aficionados will note a considerable departure in this issue's cover art. Gone are his customary bright colors. Present is other people's drawing – government-generated consumer and manufacturer propaganda art from the fifties culled from Crumb's library and reworked subtly. All of this to evoke some of the message of Antler's FACTORY (page 4), a poem that Crumb liked a lot.

Among CQ staff the cover is controversial. See page 144. Join the fray. *–Stewart Brand (SB)*

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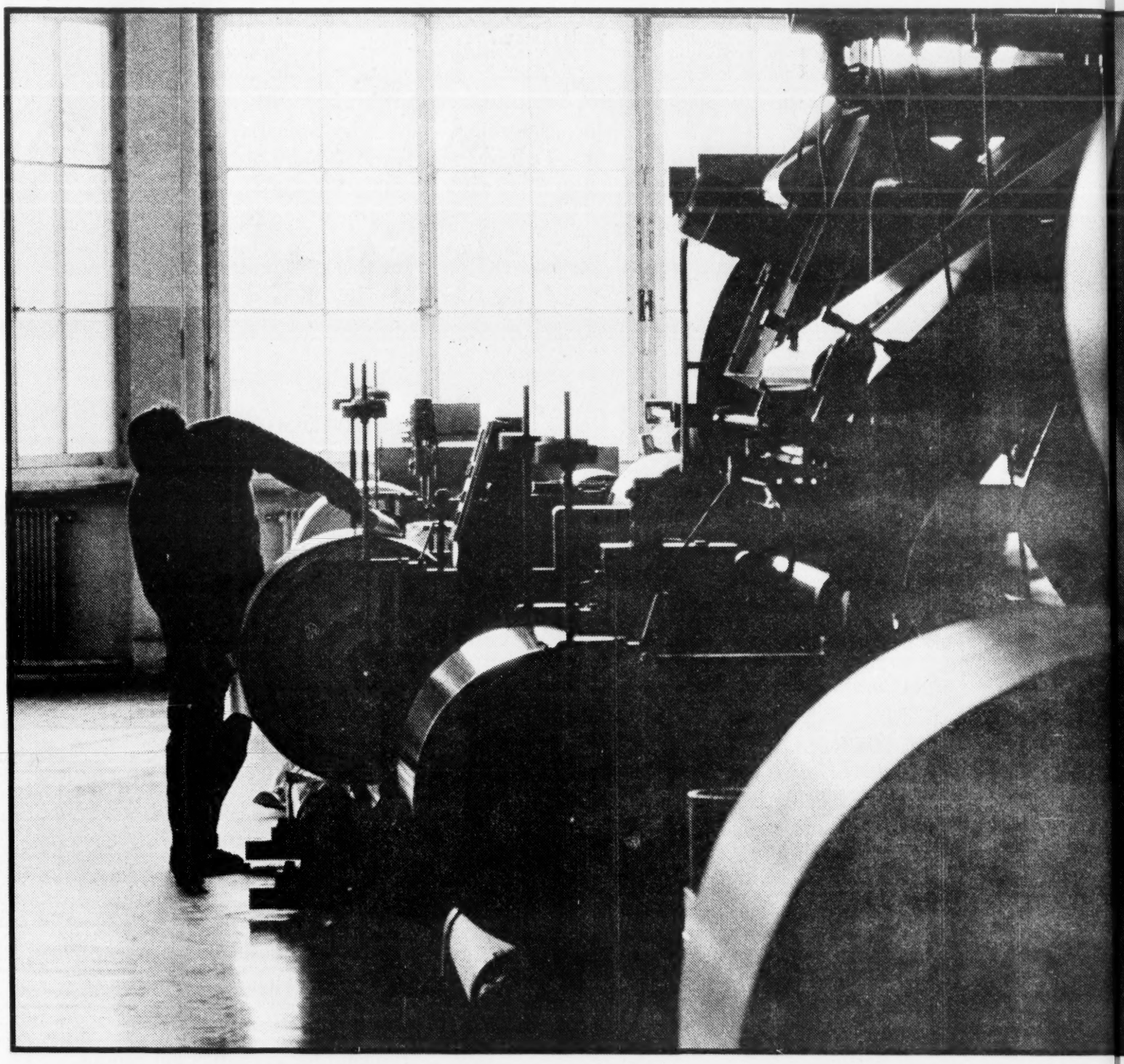

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I

Appearing here for the first time, FACTORY is a poem of 13 sections, of which we're printing all of sections I, II, and III and portions of V, IX, and XIII, and wish we had space for more. The whole poem is due to appear in a (still untitled) book by three poets coming from City Lights, due Spring or Summer 1980. – SB

The machines waited for me.
Waited for me to be born and grow young,
For the totempoles of my personality to be carved,
and the slow pyramid of days
To rise around me, to be robbed and forgotten,
They waited where I would come to be,
a point on Earth,
The green machines of the factory,
the noise of the miraculous machines of the factory,
Waited for me to laugh so many times,
to fall asleep and rise awake so many times,
to see as a child all the people I did not want to be,
And for suicide to long for me as the years ran into the mirror
disguising itself as I grew old
in eyes that grew old

FACTORY

by Antler

"FACTORY inspired me to laughter near tears, I think it's the most enlightening & magnanimous American poem I've seen since Howl of my own generation, and I haven't been as thrilled by any single giant work like that by anyone of 60's & 70's decades as I was by your continuing inventions and visionary transparency. . . .

More fineness than I thought probable to see again in my lifetime from younger solitary unknown self-inspirer US poet – I guess it's so beautiful to see because it appears inevitable as death, that breakthrough of beauty you've allowed yrself & me.

–Allen Ginsberg
(from 8/27/76 letter)

As multitudes worked on machines I would work on,
worked, ceased to exist, and died,
For me they waited, patiently, the machines,
all the time in the world,
As naked magazines waited for my eyes
they waited,
As I waited for soft machines like mine
unknown to me, face, flesh,
all the ways of saying goodbye,
While all my possibilities, like hand over hand on a bat
to see who bats first, end up choking the air –
While all my lives leap into lifeboats
shrieking – "You can't afford to kill time
while time is killing you!"
Before I said ***Only the religion whose command before all others***
is Thou Shalt Not Work shall I hosanna,

Before I said ***Not only underground are the minds of men***
eaten by maggots,
Before I said ***I would rather be dead***
than sweat at the work of zombies,
The machines waited.

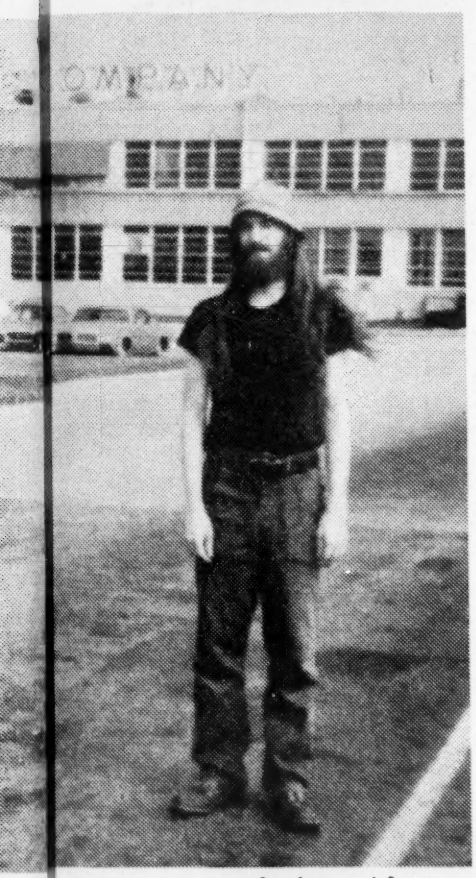
Now the factory imagines I am there,
The clock keeps watching me while it works
to see how much time it has left.
How much does it get paid? Are coffins the safes
where it keeps its cash?
I see my shadow working on the shadow of a machine.
Everywhere I look I am surrounded by giant machines –
Machines that breathe me till I become stale
and new windows of meat must be opened.
Each year of my name they ran,
Each time I kissed, each time I learned a new word,
or name of a color, or how to spell boy,
Night, day, without stopping, in the same place running,
Running as I learned how to walk, talk, read, count, tell time
and every time I ran alone
pretending to be a wild black stallion,
They ran as I thought never (my eyes in the clouds)
would my future corpse need to be buried
premature in slavery of exchange to contemplate
the leisure vacations of photosynthesis
and the retirement of tombstone inscriptions
into veils that veronica the Earth,
They ran, and I never heard them,
never stopped to hear them coming,
All the times walking to school and back,
All the times playing sick to stay home and have fun,
All the summers of my summer vacations
I never once thought I'd live to sacrifice my dwindling fleshbloom
packaging the finishing touches on America's decay

What do we do with a person who slowly tortures children to death? That is what Factories are doing, not only to the bodies and minds of children, but all human beings and all living things on earth. Faster and faster the air we breathe, water we drink, food we eat is poisoned by Factories. One ton of toxic substances per person in the United States are dumped into the air, water and earth every year! The flesh of Americans contains so much DDT it wouldn't pass federal standards for human consumption! Every day more cows, sheep and pigs are killed in America than all the Jews in concentration camps in WWII! Every year we use up enough trees to build a ten-foot-wide boardwalk 30 times around the world at the equator! Each year in the U.S. alone one million acres of oxygen-producing trees are paved over! When Whitman heard the workers singing their varied carols he had no idea it would be this way today. In Whitman's time Mannahatta was smaller than Milwaukee is now. When he died in 1891, the tallest building in Mannahatta was ten stories high.

Once people sang as they worked – songs of voyageurs, sailors, cowboys, harvesters with scythes. What songs do factoryworkers sing? The workers of today don't realize they're wielding the murder weapons of the World. They don't think eight hours a day they commit a crime against Humanity. They don't think eight hours a day no one can be proud working any job that contributes to Planet Death. Poets who find themselves in Factories to survive must never forget they are spies behind enemy lines, doing espionage for Humanity's Most Hopeful Future. What top secret will they escape with? Not for one second should they lose sight of the fact Factories are unceasing increasing erupting volcanoes – supertankers moored everywhere on Earth continually spilling out death. What price do we pay for the miracle of Factory?

In a 1971 interview Albert Speer, Hitler's second in command, was asked (in his prison cell in Spandau): if Hitler had admitted to him that he was exterminating the Jews, what would he have said to him. Speer replied he would have told Hitler: "You're killing the Jews? That is insane! I need them to work in our Factories!" In the same interview Speer said: "It is this vast gulf

Each day of my life is my life!



Antler and factory

For money to earn me so I can write in the future
about what I am now, then am no longer,
Shortening the lifespan of planet for 6¢ a minute
so I can elegize the lifespan of beauty and my life,
So I can say before my parents ever met
machines were blaring the same hysterical noise,
So I can say they were waiting for me
every mouthful of food I swallowed,
So I can say they were waiting for me
every time paper eyes of paper nakedness
watched my hands perform the ritual of dreams,
So I can say each second so many die so many are born,
like rapid snapping of fingers, snap, snap,
snap you live, snap you die, snap you live and die again!
Each day of my life ***is my life!***

So, winding my watch before work
with the galaxies of my fingerprints –
each twist of my lifeline a dungeon of ticks –
I wondered was it for this
my hide'n'seek Huckleberryhood?
And pondered how each day goes to its grave single file
without the corpse of what I might have been,
Yet the hour hand is so slow
no one will ever see it move.

Each of the great works never written
By those who work in factories so they can write words,
what they say will be great words,
Does not care, does not wait to be written –
At the end of a day's work he who left his mind
eight hours at his writing desk for the repugnance
of metal on metal, noise on noise,
Sits down with his pen as if he had already written
the great words of his dreams.

---

between our technological potential and our moral development that makes this age both so challenging and so terrifying. We now have the power to reach the stars – and to destroy our own planet. . . . In a world terrorized by technology, we are *all* in Auschwitz."

I sold myself to Factory in order to make money to buy freedom to study and write Poetry! I enlisted at CCC. Not Civilian Conservation Corps, but Continental Can Company, Plant 77, one of over 200 worldwide. Located along the Milwaukee River in Milwaukee, Wisconsin, the largest can company in the world under one roof. I worked in the press dept., packaging the tops and bottoms of cans into narrow bags or cardboard tubes as they came from a machine called a press which punched them from sheets of aluminum. The press machines were like huge machine guns except rather than shooting bullets they shot lids – 1,000 a minute advancing toward me in a column down a long narrow chute.

Once packaged, the lids were shipped by hysters to the other side of the dept. where they were run through machines called minsters, each of which cost half a million dollars. The sole purpose of the minsters was to stamp flip-tops into the lids. The minsters were even louder than the presses. Each new worker had his ears measured and was given a set of ear-plugs in a carrying case and was expected to wear them at all times on the job. They helped, but only somewhat. When you lay in bed waiting to fall asleep, the sound of the machines would still be ringing in your ears as loud as if two shells were put next to them and you were hearing the sea. Two months after I quit, the machines were still ringing in my ears. It was this that set me to writing "Factory."

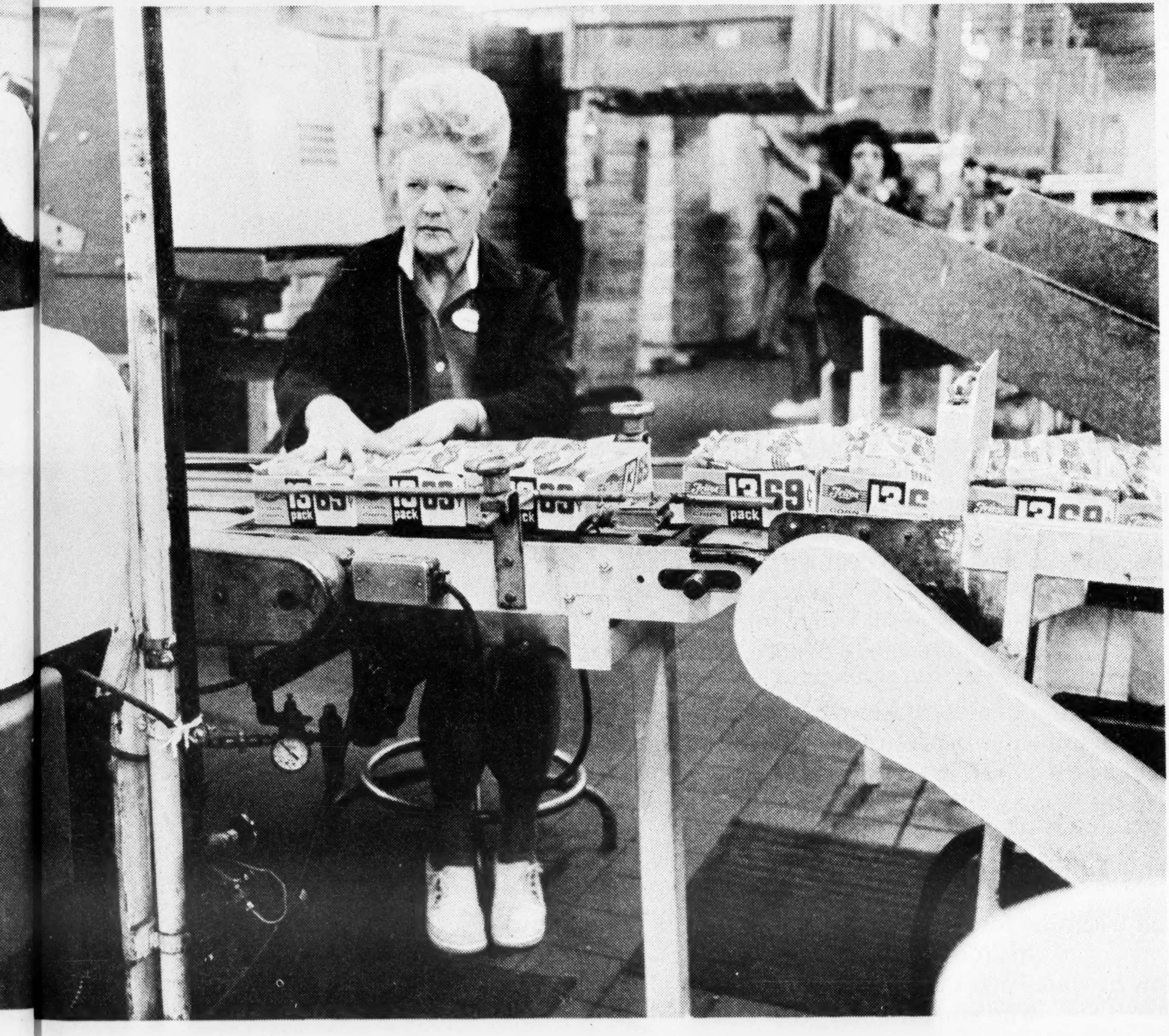
I hear an empty can blown clattering down the alley in the wind. I remember those sweltering months in the bowels of the Factory. Thousands of poets (perhaps millions) are working in Factories as I write this. May poems more powerful and tender than I'll ever write leap from their brains! May they inspire others and may those others inspire others! May we live to see a time when it seems the world is not doomed, a time when each human enlightenment is worth more than all the money in the world! –Antler

His feet feel like nursing homes for wheelchairs,
His ears an inferno of crickets,
And he says – "I feel like the grave of someone I loved"
And dreams of being hired to hammock-drowse outside where workers work
to contemplate the utopias of sleep
Or to conduct tours of the plant reciting by heart
the godliest glossolalias of divine frenzy.
Each day, those reaching the cliff of their last words
waterfall into the gorges of night, wondering
How much do corpses get paid for working underground?
How much should they receive for urging their eyes to become
the eyes on butterfly wings, peacock tails, and potatoes?
How much to package their innards into the innards of trees
and leaves that creep down shirtfronts of children
hiding in them?
How much to coax their hearts into the eight hearts
of the hermaphroditic nightcrawler or into the pink stars
that are the noses of moles?
What Union do corpses join? How do they feel, more segregated
than old people, when we keep them from humans that live –
as if their bodies weren't the bodies we loved
and called by the names we loved them by –
and cut the dandelions from their faces?

Perhaps I have never left the factory.
Perhaps I'm made to dream the 16 hours my identity flees.
It's the drug in the water that does it, remarkable,
To think I'll work here forever thinking I go home and return
and do all sorts of things in between,
like writing this poem –
Of course I'm not writing this poem!
I'm on the machine now packaging endless ends of aluminum
for the tops and bottoms of cans.
Our foreman laughed – "You'll wake up in the middle of the night
as if you're working. It's so easy
you can do it in your sleep."
And I know that in one day owning this place
I'd make more than if my life worked my lifetime here.
In my lifetime I'd make more than all the workers combined.
Then I could envy those who make a million a second –
To them the prostitutes must be most beautiful
and pornography a religion that is never disbelieved.
To those, this memo, dashed during breaks in slavery
whose chains regenerate faster than tails of salamanders
or penis's reengorgement.
To my soul wondering if I have a body or not: Huck, Huck,
look down at your funeral from lofts of the barn o' blue
Look down at me dreaming my deathbed in factory,
machines gone berserk, drowning in a sea of lids,
Dying where no one could hear my last whisper
for industries of scholars to unhieroglyph –
Where the noise is so loud that if I screamed louder than I can
no one would hear me, not even myself,
Where the bathroom stalls are scratched with the multiplication

And I know that in one day owning this place I'd make more than if my life worked my lifetime here.

of men's lives in money, the most begging graffiti,
Where it is not I who wrote this tomb, but a machine,
and the earplugs, and the timeclock
Waiting so many times to pick up the card that tells me my name,
Where metal cries louder than human yearning to return underearth,
And the first shift can't wait to go home,
And the second shift can't wait to go home,
And the third shift can't wait for the millions
of alarmclocks to begin ringing
As I struggle with iron in my face,
Hooked fish played back and forth to work
by unseen fisherman on unseen shore,
Day after day my intestines unwinding around me
Until I am a mountain of waste
From whose depths all that is left of me,
a penis and a mouth,
Dreams of reaching the peak of all I contained,
Dreams of jerking that fisherman from the Earth
and dragging him to the pearls
in the jaws of the giant clams of the sky . . . .



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II

"All you have to do is stand here
and package lids as they come from the press
checking for defects every so often.
Shove enough lids in the bag like this,
Stand the filled bag on end like this,
Fold over the top like this,
Pull enough tape off
and tape it like this,
Than stack 'em like this on the skid."

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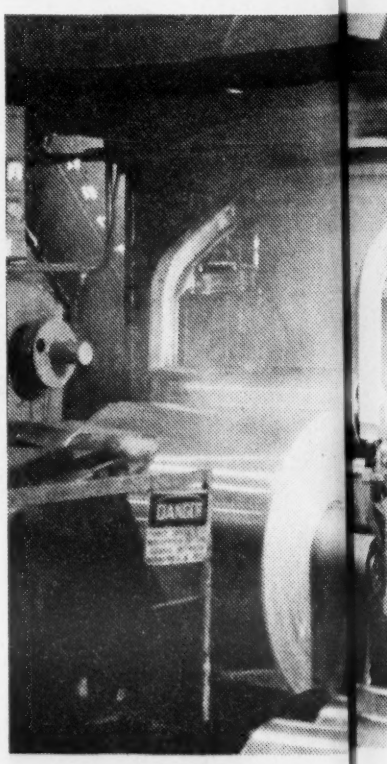
How many watching me watch the woman
teach me my job
Remembered ***their*** first day on the job,
Remembered wondering what the woman felt
teaching them in a minute
the work she'd done all her life,
Showing them so fast all they needed to know?
How many could still remember who they were in search of a living –
Name, address, telephone, age, sex, race,
single, married, children, parents, what they do or why they died,
health record, police record, military record, social security #,
how far in school, everywhere worked, why quit or fired,
Everything written here is true, signature, interview,
the long wait, the call "You're hired" –
Could still see themselves led through the factory
to the spot they would work on,
strange then and now so familiar?

This is the hall big as a football field.
Here are the 24 presses chewing can lids
from hand-fed sheets of aluminum.
Here are the 10 minsters chomping poptops
nonstop into lids scooped into their jaws.
Machines large as locomotives,
louder than loudest rockgroup explosions,
Screeching so loud you go deaf without earplugs,
where the only way to speak is to gesture,
Or bending to your ear as if I were telling a secret
the yell from my cupped hands less than a whisper.

Now the film of myself each day on the job begins.
I see myself enter the factory, led to the spot I will work on.
I see myself adjusting the earplugs to stopper the deluge of sound.
I see the woman who showed me the job
she'd done her whole life in a minute
Let me take over, and the minute she left how I fumbled,
how the lids gushed all over the floor
And when the foreman rushed over and I hollered – "Something's wrong!
It's too fast! No one can work at this speed!"
How he stared and the stares of the others
who couldn't hear what I said but could tell.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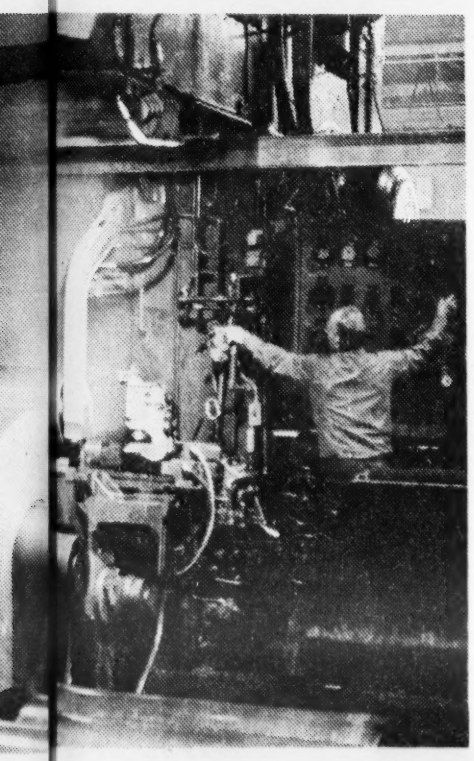
And I gulped, This "Beat the Clock" stunt
must be performed ***eight hours***
before the lunatic buzzer itself
becomes consolation prize.

Yet sooner than I thought, I mastered the rhythms,
turned myself into a flywheel dervish,
And can't deny being thrilled by the breakthrough
from clumsy to graceful –
Though old-timers scowled as if it took years
to learn all the fine points.
But long after my pride in doing such a good job
turned into days crossed off the calendar
each night before pulling out the alarm
I woke to push in,
up, eat, go, work, eat, work, back, eat, sleep,
All the days I would work stared
ahead of me the line of machines,
behind me the line of machines,
Each with a worker working as I work,
doing the same job that I do,
Working within sight of the wall clock
whose second hand is still moving.

up, eat, go, work, eat, work, back, eat, sleep,



III

Thus as the foreman watched me from the corner of his eye
as I watched him from the corner of mine
pretending to be doing my best
as if I didn't know I was under inspection,
I relished the words I would write
intoned in this factory where no one could hear them,
swallowed in the shrill-greased ecstasy of machines
as I led processions of naked acolytes
sopranoing Athenian epitaphs, candles in their hands.

To write this poem, to bring the word beautiful into Factory
You must never forget when the lids first come from the press
they are hot, they are almost slippery.
You must never forget since each tube holds 350 lids
and each crate holds 20 tubes and each day I fill 40 crates
From my work alone 280,000 lids each day –
huge aluminum worm wriggling one mile long
into the cadaver of America.
You must never forget 14 million cans each day from a single factory!
5,110,000,000 cans each year from a single factory!
More throwaway cans each year than human beings on this planet!
Every high, every heartbeat of your life
the machines have been running.
Every time you heard a pianissimo
the earsplitting machines have been running.

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You've already spent more time working here
than making love.
More time working here than lying on hills
looking at the sky.
You must say to yourself – "If I don't work here
this poem won't be able to write me."
And asked – "What's that smell?" you must remember
on your clothes, on your skin, in your lungs
and when the breeze is just right through your bedroom window
the smell of the factory.
You must brainstorm machines and workers are like poets and readers:
the poets eat sheets of steel and press them into words
that are the ends of containers,
The reader stands in one place shifting from foot to foot,
crating and crating,
Searching for defects so the noisemaker can be shut down
and while white-coated mechanics scurry to fix it
like doctors around a sick president, he can take a break,
get a drink, take a crap, unwrap some butterscotch to suck on,
glimpse a glimpse of second-shift sunset,
watch the guard lower the flag.

To birth this womb, to do for Continental Can Company
what Walt Whitman did for America,
You must celebrate machine-shop rendezvous!
You must loafe observing a disc of aluminum!
You must sing the security of treadmills
remembering where you are today
you were yesterday
you will be tomorrow.
So, after suicide invites you through the naked mirror
and poetry dares you to dive headfirst into the sky,
After memorizing the discovery of fire, tools, speech,
agriculture, industry,
And all the inventors, inventions and dates
of the last 10,000 years you got a 100 on in History,
And after the ceaseless history of human war
reads the eyes in your face,
Faced with the obituary of man,

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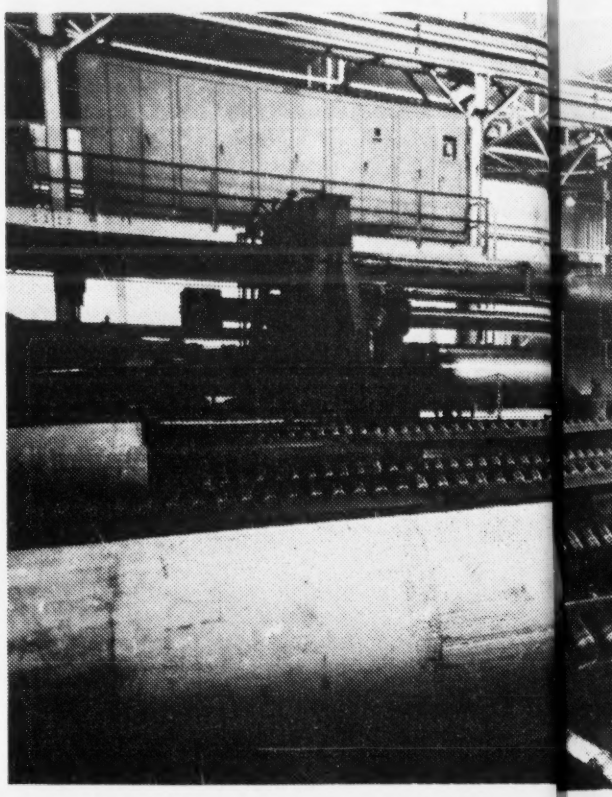
Caught in the deathrattle of the world,
from the deathblows of pollution,
from the deathknells of overpopulation,
from factories which are the deathbeds of Nature
and the seedbeds of bombs,
After contemplating the graveyard of elegies,
the immortality of maggots
and the immolation of the sun,
Then, Antler, or whatever your name is,
Enjoy returning prodigal to your machine
to forget the view from the skyscrapers of money,
to forget the hosts of human starvations
belly-bloated or brainwashed in Mammon,
to forget the sign over the entrance to Auschwitz
WORK MAKES MAN FREE,
to forget that working here you accomplice
the murder of Earth,
to forget the birds that sing eight hours a day
daydreaming the salaries of worms,
to forget how old you must be
to be rich and young before you die,
to forget your mother waking you
from this nightmare
is only a dream –
So nothing called life can torment you with undertakings
and your only responsibility toward mankind
is to check for defects in the ends of cans.

from V



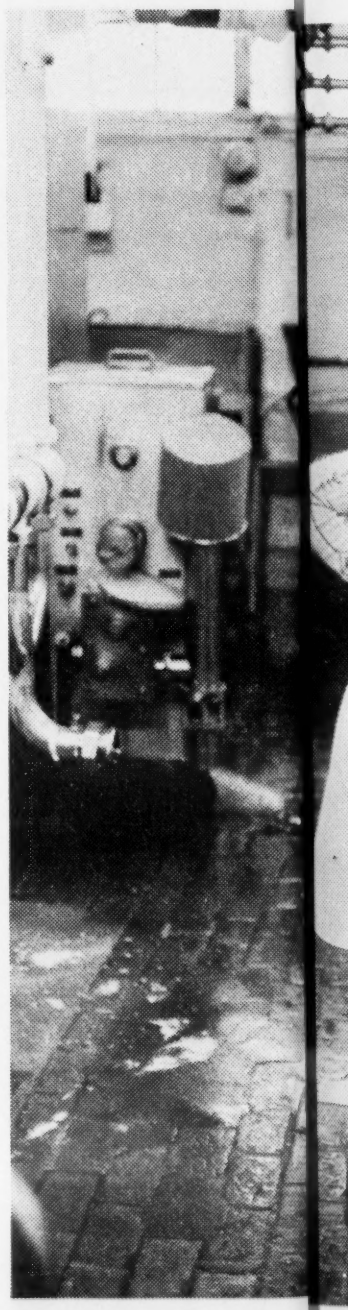
. . .
What good does it do to say one second
is to a human lifetime what a human lifetime
is to the age of the Milky Way?
What good does it do to say there are as many galaxies
in the visible universe
as stars in the Milky Way?
What good does it do to say each of us is a planet
or that there are millions of planets
with life in outerspace?

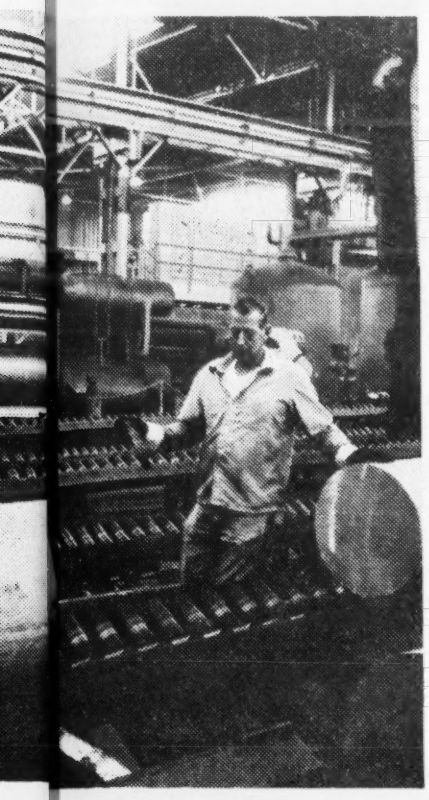
The workers look forward to lunch
or fucking when they get home.
Long nights of TV look forward to them.
Weekends of movies and bars look forward to them.
Cheering in football stadiums and buying things in stores
and 50 weeks imagining a 2 week vacation,
all are waiting for them.
Does the baby inside the pregnant woman working ahead of me
dream of a knock on the door and a check for a million?
When she smokes by the vending machine on her break
and it's not as if she's staring off into space
but as if space were staring far off into her eyes,
can the unborn tell the dead from the living?
Are its ears already dumbfounded by stupor?
Does it already treasure Te Deums of tedium?
What good does it do to say each of us is a universe
when we're bored with immortality already?

Poetry keeps telling me I'm an obstetrician on 24 hour call
to deliver the voice of God from my mouth.

. . .
One June afternoon on my break
I walked to the plant entrance and found
A storm, incredible rain, lightning and thunder,
sky suddenly so dark the street lights came on,
And noticed, on the ground by the open door,
Hundreds of cigaret butts left by those
who stood, at some time, on the same spot,
Facing the guardhouse, the parkinglot, the lawn after that
to the street, the other factories this side and across,
the busy freeway beyond,
And realized no one working could hear the thunder,
no one working could see the rain.

Why aren't the workers memorizing geologic time charts on the job,
dates of eras and forms of extinction on their fingertips?
Are they bored with the full-length re-runs of their past?
Aren't they happy with a free lifetime supply of dreams?
What ten desert islands have they picked to take with them to Megapolis?





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Is this death's way of greeting me at the beginning of a great career?

I can still hear them saying to each other –
"It seems I just get out of work and I have to go back."
or "I look upon it like it's just one big joke."
or "At least it's not a concentration camp."
Have none of them heard the fog asking to be let in
to engulf each minion in cool mist?
Does no one remember how they first pronounced
the Book of Job?
Is this death's way of greeting me
at the beginning of a great career?

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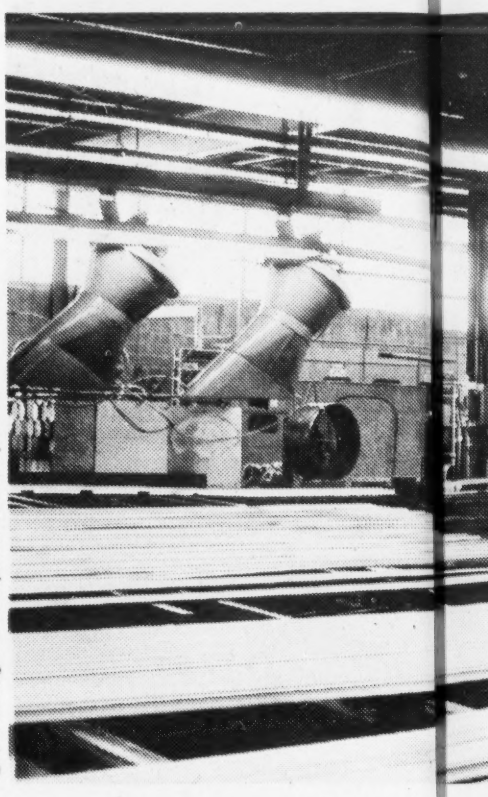
from IX

. . .
I should be paid for discovering America
is committing suicide with factories!
I should be paid for wondering if I'm only a defect
in the mass-production of zombies!
I should be paid for pondering if God packages universes
the way I package lids!
I should be paid for combering if the sea ever gets tired
of making the same sound!
I should be paid for writing ***The Infinite Autobiography of This Spot Through Eternity***!
I should be paid to stand on this spot
before America was discovered!

. . .
What do I get for knowing the hunting and gathering way of life
represents 99% man's time on earth?
Or for knowing the slaves who built the pyramids
carved graffiti praising Pharaoh on the giant blocks of stone?
What do I get for knowing a billion dollar bills placed end to end
would extend four times round the world
and if you picked them up one per second
it'd take 134 years?
I should be rich for knowing the answers
to so many $64,000 Questions!
I should be rich for crying the Tarzan Cry
that brings the skeletons of extinction to the rescue!

Before, I said – "There will always be room in my brain for the universe!"
Before, I said – "My soul will never be bludgeoned
by the need to make money!"
Before, I said – "I will never cringe under the crack
of the slavedriver's whip!"
Now my job is to murder the oceans!
Now my job is to poison the air!
Now my job is to chop down every tree!
I make food full of poison and say – "This is what you must buy!"
I'm in charge of torturing heretics
and anyone who disagrees with the king!
I spend eight hours a day crucifying saviors!
I spend eight hours a day executing Lorcas!
I make slag heaps out of human souls!
I'm the first to go in the gas chamber after it's all over.
The corpses are piled on top of each other,
the strongest on top, the weakest on bottom,
all naked, many still twitching, still bleeding
from noses and mouths,
vomit, shit and piss befouling the agonied postures.
My job is to pull the gold teeth
and shovel the bodies into the ovens.
Thanks to my work, Wolf Grizzly Eagle Whale
and other deities in the pantheon of pantheism
are no longer a threat to organized religion.
My job is to drop the Atomic Bomb on Hiroshima.
Twenty years later, asked would I do it again
I say – "Yes."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. . .
O pay me for saying I could live the rest of my life
on the money it costs to make one 500 pound bomb!
O pay me for saying every five days one million more humans on planet!
O pay me for discovering the origin of writing
was to keep track of wealth and slaves!
O pay me for saying children who worked 12 hours a day
were so tired they fell asleep with food in their mouths!
O pay me for showing adults in factories
no less tragic than child labor!
O pay me eight hours a day to do nothing
but make bombscare phonecalls!
O pay me to say a poem is the best way
to blow up a factory!
How many mediums of exchange do I get
for getting higher than ever?
The cry of the eagle gives me a million!
The taste of wild berries gives me a million!
The smell of black locusts gives me a million!
The feeling swimming naked gives me a million!
I'm rich with all the visions opening cocoons afford!
A billionaire of reincarnations that can never be bankrupt!
O pay me to dress up as Santa
and go down the Auschwitz chimneys!
O pay me for using so many exclamation points!
Each worth more than a skyscraper!

Thanks to my work, Wolf Grizzly Eagle Whale and other deities in the pantheon of pantheism are no longer a threat to organized religion.

from XIII

. . .
Here is the door.
I'll open it now.
All I have to do
is open it
and leave.
For all I know
the city will no longer be there
and I'll walk into the absolute forest –
Machines are not trees, machines are not clouds,
Lids advancing forever are neither streams nor lapping shores,
Clocks are not moons, moons are not coins,
Coins are not the view from the mountaintop,
jobs are not sunrise,
work is not dawn:
The Miracle of Factory passes from my life!
"Working at Continental Can Co. March 16 - July 3, 1970" R!I!P!

Like a kite played higher and higher
Pulls more gently as it gets smaller and smaller
until it's hardly there, only a dot,
and tugs like the memory
of some unrequited caress,
So the years have come between me and that time,
those factorydays of my past,
those futile days of my life,
But not until all factories are turned into playgrounds in moonlight,
Not until all applicants for factories must memorize this poem
to be hired,
Not until I'm hired to dress like a grasshopper and fiddle
"O the world owes me a livin' "
to the nation of ants
Will I let go of the string.

And when the time comes to let go
Let the last thing I remember be
the night when the power failed,
When the monsters that even now
are preaching the same circular words
that will outlive us all failed,
When everything stopped and went dark,
How in the sudden vast silence of factory
I heard my own voice for the first time,
And crouching at the feet of the machines
In that dark broken only by exit lights
how I closed my eyes
Wondering if when I opened them
I would be 15,000 years ago
Beginning in the flickering of my torch
to paint the antler'd dancer
on the vault of my cave. ▪

Worldwatch Papers

What Amnesty International does for political imprisonment and torture, what the Council on Economic Priorities does for American business and government, Lester Brown's Worldwatch Institute does for environmental (and occasionally economic) problems world-wide. All three are private, highly respected, and widely used in the press.

In its five or so years Worldwatch has managed to become prolific in its output without sacrificing quality. The stuff is solidly researched, gently presented, and sometimes quite original — such as Erik Eckholm's celebrated report on the world firewood shortage. Even more remarkable, the work is politically astute and politically pointed without any limiting flavor of Leftness.

For outstanding (and frequent) environmental reporting, I can think of no better source. —*SB*

Worldwatch Institute
$25 /year

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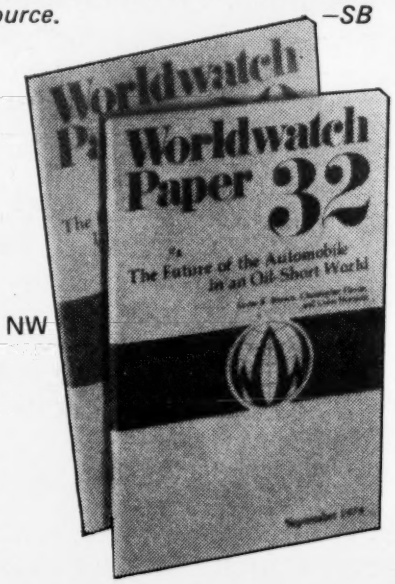
(back issues)
$2 each postpaid from:
Worldwatch Institute
1776 Massachusetts Ave., NW
Washington, D.C. 20036



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•

. . . the higher productivity, cooperative labor-management relations, and better work life associated with worker participation argue strongly for new forms of management and ownership. The public seems aware of these advantages. Two out of three Americans in 1975 said they would prefer to work for an employee-owned and -controlled company if they were given the choice. Nearly one-third of those surveyed in a 1974 opinion poll in France said the single most important reform they wanted was industrial democracy.

—*Worker Participation — Productivity and The Quality of Work Life*

The lack of a population policy is a national luxury that the world can ill afford. If population policies are to be intelligent, and if demographic projections are to be meaningful, most countries need far more information on the sustainable yields of their grasslands, forests, croplands, and fisheries. The scarcity of data in most areas points to the need for assessments of the carrying capacity of local biological systems under varying demand pressures and levels of management. . . .

—*Resource Trends and Population Policy: A Time for Reassessment.*

The demand for land redistribution is not an abstraction conjured up by idealistic intellectuals. Over the coming years, close to one billion people will be clamoring for a better deal in the countryside. Struggling with chronic exploitation, destitution, and insecurity, they rightly see that access to farmland can give them a chance to accumulate assets and create a better life.

Analyses of the world hunger problem consistently identify two imperatives: more food must be produced in developing countries, and it must be more widely distributed. Land reform can often contribute to the achievement of the first goal and can always contribute to the achievement of the second. More food production alone will not eliminate hunger; nor will more charity. Only secure access to decent land or jobs will give the dispossessed a chance to work their way out of extreme poverty and undernutrition. Those serious about eliminating hunger have no choice but to involve themselves in the acrimonious politics of social change.

—*The Dispossessed of The Earth: Land Reform and Sustainable Development*

In the United States, it now costs about $20 to fill the tank of a standard American car; five years ago, it cost less than $10, and five years hence it is likely to be $50. In many European countries, it would already cost between $40 and $60 to fill a 20-gallon tank.

—*The Future of the Automobile in an Oil-Short World*

American Ways With Resources and Techniques

If you think our recent problems with environment, land use and abuse, and other ecological/economic conflicts are new . . . well, you have to take a look at this. There were dire warnings even in the 1600s, and the quick-buck boys nearly always won out, using the very same arguments they use today. Mr. Rebel liberally uses quotes from the times he discusses, lending an air of deja-vu *to the whole presentation. I read it cover to cover, despite the annoyance of wading through end-of-chapter questions which are a legacy from the book's original intent as a high school text. High school or no, it is a deadly look at our wastrel tradition and what made it. I hope Mr. Rebel can manage to get someone to publish this as a "real book" (it's now a mimeo manuscript), as I think it is an important mirror that can help us understand us. It's one of those books you keep annoying other people with: "Hey, I wanna read you something . . . listen to this!"* —J. Baldwin

American Ways With Resources and Technologies
Hermann Rebel
1978; 168 pp.

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Campus Stores
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Iowa City, IA 52242

Americans took full advantage of the abundance of wood. They developed saw blades, for example, which were much thicker than those used in Europe and which therefore reduced more of a log to sawdust. The American saw was stronger and cost less to maintain than those used in Europe but it also, according to expert estimates, converted about one-fifth of every log it sawed into sawdust. Wood was so plentiful and cheap, however, that any saving at the expense of the resource material seemed justified.

•

Farming here is conducted on the regular skinning system. . . . There seems to be a continual struggle with each farmer to have longer strings of fence, bigger fields, and more ground in corn than his neighbor. The result of which struggle, in conjunction with the ease with which land is brought into cultivation in the prairie, convenient to timber, is that most of the farmers in this country *scratch* over a great deal of ground, but *cultivate* none. Instead, however, of endeavoring to extricate themselves from their difficulties in the most reasonable way possible, that of ceasing to enlarge their farms and growing grass seed until they are reduced to a manageable size, the cry is still more land, more corn. It is corn, corn, corn, nothing but corn. . . . Take the state over and I have no idea that one farmer out of fifty has ever hauled a load of manure to his corn fields since he has been in the state. I have doubts, even, whether one in a hundred has ever done it.

The Cultivator, new series, Vol. 6, 1849, p. 302 cited in Percy W. Bidwell, **History of Agriculture in the Northern United States, 1620 - 1860**, Washington: Carnegie Institution, 1925.

Freedom Inside the Organization

Most people who work for large institutions are aware of the fact that for 40 hours a week they are deprived of many Constitutional Amendment rights. This book examines the issues and begins the long 20 - 40 year battle ahead of us to bring civil liberties to the institutionalized employee. —Michael Phillips

Freedom Inside the Organization
(Bringing Civil Liberties to the Workplace)
David W. Ewing
1977; 246 pp.

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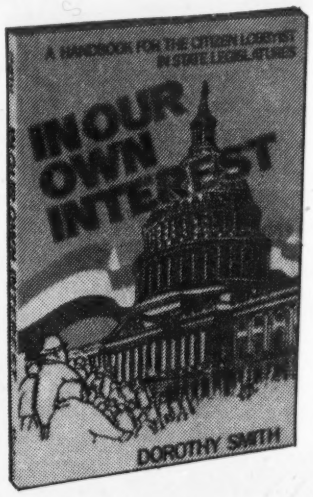
In Our Own Interest

Here is the finest operative introduction to the process of legislative politics that I have seen. Our political system, like our marketplace, is based on an odd mix of cut-throat competition and genuine honor. A good political idea will not defend itself. Financial clout counts for something in lobbying but not as much as savvy and integrity. Much of the savvy is here. —SB

In Our Own Interest
(A Handbook for the Citizen Lobbyist in State Legislatures)
Dorothy Smith
1979; 137 pp.



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Integrity and professionalism are the cornerstones of all fruitful legislative activity. There is no place where a person's word is more important, and no place where personal integrity is more relied upon and more appreciated than in the legislature.

Partisanship is expected at every turn; when the opportunity arises, try to take every advantage according to the rules. But there is an "honor of the House" that is the very real foundation of processes that must rely, at root, on trust and accurate communication.

The more the citizen seeking change recognizes the reality and the strength of the rules by which the game is played (and by which he will be judged), the greater the respect he will have for the worth of our legislative processes — and the greater success he will have in dealing with those who are involved in public business.

•

Reserve judgment about the people with whom you must deal until you have had sufficient personal experience to know them. If you are wise, you won't censure those who oppose you on specific matters — today's foe may become tomorrow's colleague. *The ability to see your opposition in realistic terms is essential to the achievement of workable legislative solutions.* It is almost impossible to come to agreement with an enemy. Compromise with an opponent is possible and often desirable. Reaching agreement with a truly hostile antagonist is next to impossible. Fight your opponent intelligently. But do not hate him. To permit yourself to hate a person is, after all, to become to some degree his prisoner.

How to Use the Freedom of Information Act

In the historic American tradition of governmental checks and balances, the Freedom of Information Act lets the citizen participate in maintaining governmental candor. Ask, and if they know and it won't sink the republic to tell, they have to tell you. This is a modest run-down on the Federal procedure. —SB

How to Use the Freedom of Information Act (FOIA)
L. G. Sherick
1978; 138 pp.

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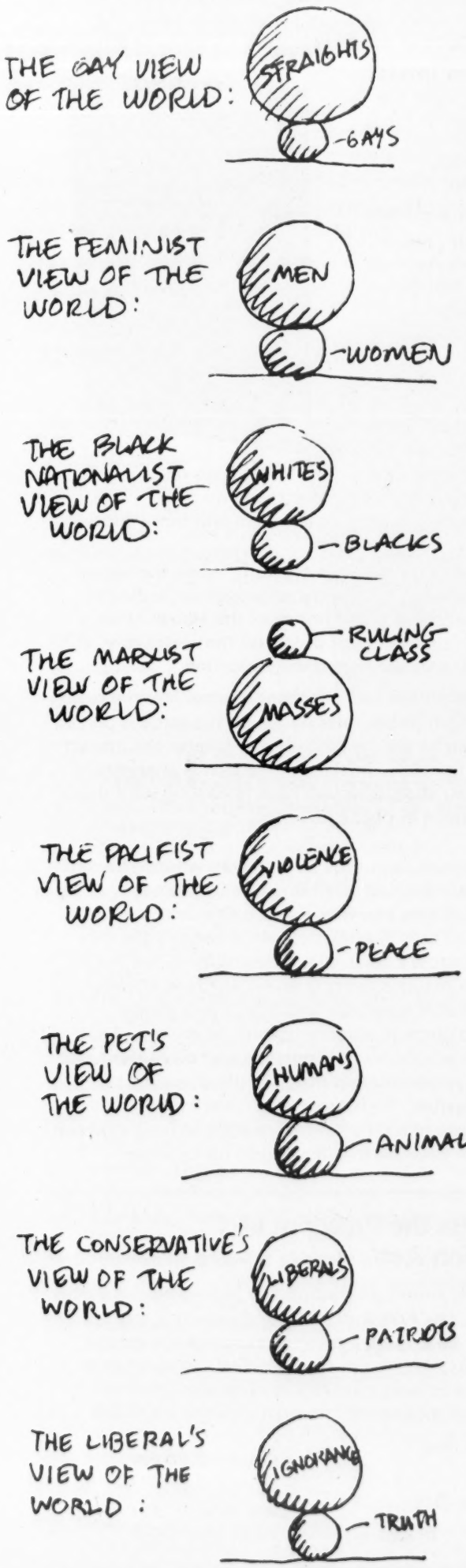


POLITICS AS FASHION

LET ME TRY to be as ambiguous as possible. I am an Anarchist and I am not. I am a Socialist and I am not. I am a Communist and I am not. I am a Libertarian and I am not. I am not what I say I am, I am what I say. I vacillate and I do not. I am all these things and I am not. I can be pinned down and I can't. I like to label others. I do not like to be labelled by others. I believe in the masses and trust no one. I believe that I am God and I am an atheist. I believe that you are God and let you get away with murder. Clarity only arrives when one realizes that it is impossible. All emphatic statements I make are false. All qualifiers are cowardly. All negations are bad vibes, man. Got that? Good. Let's start over.

It is hard to see ourselves in the present. The distance of years sometimes makes the task a little easier. I recently came upon the September 17, 1971 issue of the *San Francisco Good Times*, the long-dead local underground paper. Here are a few snippets from that issue.

The Revolutionary Army blew up the office of Foster and Kleiser at 1601 Maritime Street, inside the Oakland Army Terminal, saying in a note to KSAN (our local "underground radio station" which, like Foster and Kleiser, is owned by Metromedia) that "Billboards in Babylon are an offensive manifestation of pigthink. Their fascist distortion of our people's reality can no longer be tolerated." They demanded KSAN abandon their billboard contest and donate the prize money to a revolutionary cause . . .

The problems of fame continue to beset Abbie Hoffman, America's best-loved revolutionary. Besieged by the charges of Izak Haber that he stole the book Steal This Book, *from him, Abbie has also made a formal announcement of his retirement from the movement.*

What are these quotes supposed to prove? Hard to say. Perhaps that it is somewhat refreshing not to have to still listen to rhetoric like "pigthink" or "fascist distortion of our people's reality." Abbie, as we know, didn't stay in retirement. Only the next year he was co-authoring a slim paperback with Jerry Rubin and Ed Sanders urging the youth of the U.S. to *Vote!* Rumor has it that he will

---

Cartoonist Jay Kinney, routinely our best-informed and most objective source of news on the Left, has a comic book history ranging from **Young Lust** *to* **Corporate Crime** *and* **Anarchy Comics.** *–SB*

As Politics

by Jay Kinney

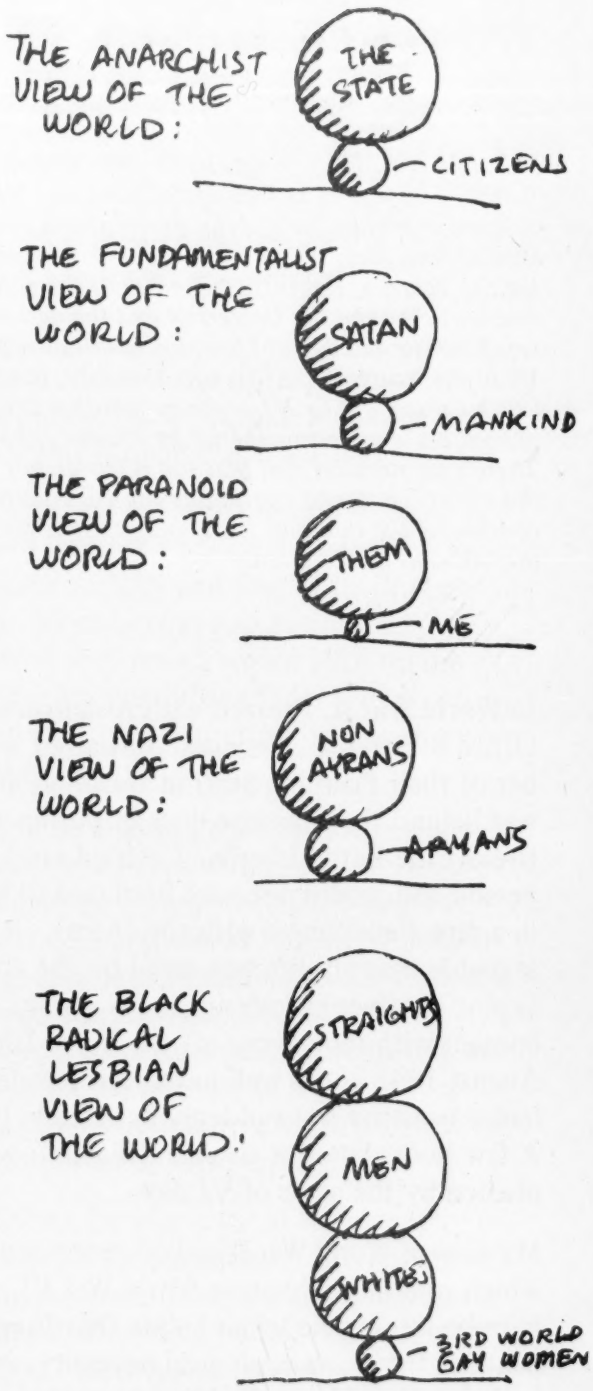
come up from the underground life at any moment to try out the new role of movie star.

Long before Tom Wolfe coined the term "Radical Chic" it was apparent that fashion interacts with politics in ways not entirely foreseen by Marx a century ago. Those awaiting another mass upsurge of political foment á la the '60s will soon be granted their wish, I reckon, though they'll also quickly despair at all the trendy garbage accompanying such an upswing. With fashionability comes the sly grin of the annointed, those who are "into" a happening thing. Except that in politics the emotion-of-exchange is not a grin but a grimace – the shout of anger over outrageous misfortune. The anger is justified, undeniably, but when fashionable it becomes fetishized for its own sake. The demonstration becomes the cathartic acting out of the prized emotion. Usually, no goal is reached, the rage recycles and is unleashed again. The crowd swells, peaks and dissipates. Fashion departs and those for whom it has become a way of life stay on, their rage at their own impotence increased by their new unfashionability. The backlash sets in – which is nothing so much as the finally expressed frustration of the poor fools who previously had to put up with the righteous outrage of the fashionable. The backlash against the women's movement is, in part, the cry of the women for whom the movement did not speak or reach. The backlash, then, is the nadir of the fashion cycle.

It would be a mistake, of course, to reduce politics and liberation movements solely to fashion and style, and that is not my intention. But as struggles for social change penetrate into the popular media and our social lives, they *are* susceptible to treatment as fads, as sport.

Fran Lebowitz is not alone when she notes (in a recent interview in *Plexus*, the Bay Area Women's Newspaper): *[I was] peripherally [involved in the political movements of the late '60s] – as a recreational activity. I went to Washington and all those marches and it was like a social outing. It was like going to the movies to me . . .*

No consumers' group is going to stop us from consuming our own lives as a series of events and products, and I'm as caught in it as anyone. But up until the point where our own lives (and not just our lifestyles) are at stake, it should come as no great surprise when issues come and go without ever really getting resolved. ■



MAKE UP YOUR OWN COMBINATIONS!

INVENT NEW DICHOTOMIES!

ENJOY THE RIGHTEOUS INDIGNATION OF DUALISTIC THINKING.

Letter to the Regents of the University of California

by Gregory Bateson

Dated March 23, 1979, this letter from Regent Bateson (author of **Steps to an Ecology of Mind** *and* **Mind and Nature***) expressed his lifelong concern with the structure of arms races. It was addressed to an issue then facing the Board of Regents – whether to sever the close relations between the University and the nation's leading weapons laboratories at Livermore and Los Alamos. When the matter came to a vote this July, Bateson's side lost by about 1/3 to 2/3 – the margin that Brown appointees were outnumbered by Reagan appointees. There's no question that that too is trivial, but making the effort is not, and continuing the effort, especially continuing the thinking, is our only shot at turning the hellward acceleration.* —*SB*

In World War II, I served with Americans in the Office of Strategic Services. Initially I was a member of their Planning Staff in Washington. Later I was behind the Japanese lines in Burma and under fire off the Batoe Islands. I carried arms on my person and would not have hesitated to use them in a direct encounter with the enemy. It is even arguable that my life was saved by the atomic explosions over Hiroshima and Nagasaki. My contact with the enemy off the Batoe Islands in August 1945 could well have been terminal for me had the enemy not suddenly desisted in his efforts. A few hours later his strange behaviour was explained by the news of VJ day.

My view of World War II and of our nuclear efforts, which can only maximise World War III, will perhaps be intelligible when I state that I regard death as trivial, an ecological necessity. Suffering is always horrible, and addiction to that which must lay the base for future suffering is obedience to Satan.

World War II was begotten of the evil generated at Versailles in a peace treaty, which treacherously punished the Germans who had laid down their arms trusting in the terms of the Armistice which we had offered. We set up the conditions – the double bind – for their national psychosis and for the rise of their psychotic leadership. But that psychosis had to be eradicated by force of arms – *demanded* force of arms that it be eradicated.

It is a matter of levels of treachery. In actual warfare any trick can, perhaps, be condoned, but woe to the man or nation who uses treachery in the negotiations *about* war. At the peace table, treachery must always be ultimately suicidal.

The nuclear bombing of Hiroshima killed 100,000. It saved Bateson's life. Death, says Bateson, is trivial, but suffering is not, and our addiction to weapons competition organizes for massive suffering. These excerpts from a Japanese comic "Hadashi no gen" ("Barefoot Gen") make the case. For copies, contact Project Gen, F3 Endo Building, 3-2-11 Sotokanda, Chiyoda-ku, Tokyo 101, Japan.

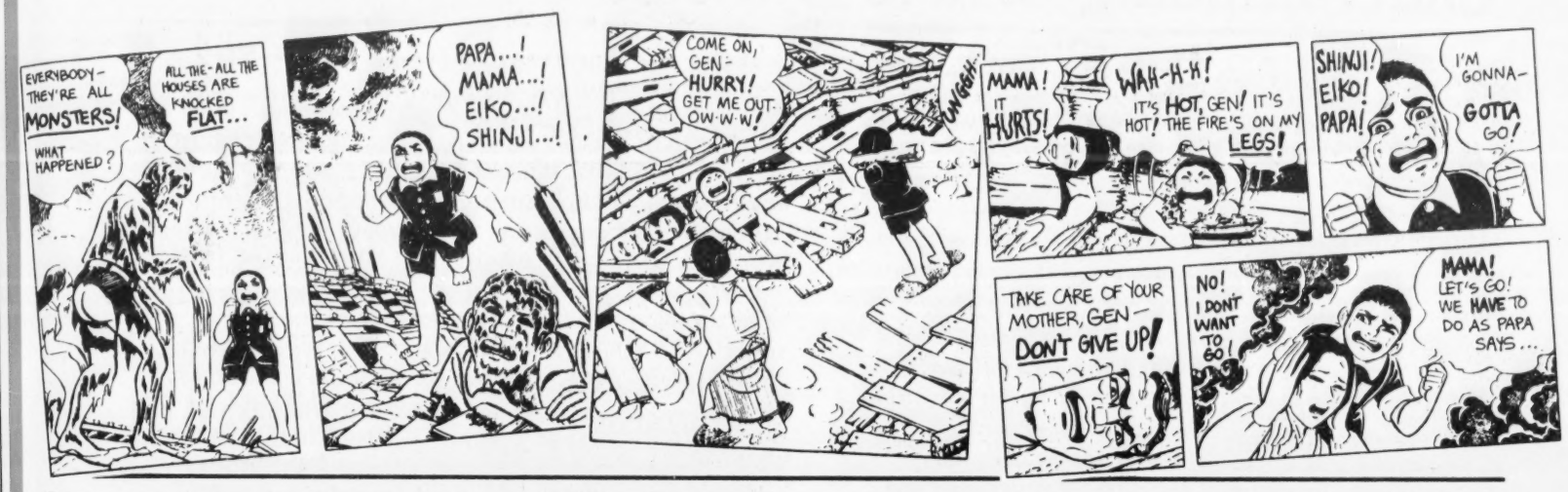
In passing, note that at Versailles the arguments which Clemenceau and Lloyd George used to drug the conscience of Wilson were not unlike those advanced today to justify our half of the nuclear arms race. It was patriotic commonsense that seemed to justify vengeance and greed. The wicked Bosch was to be for ever made powerless.*

All the above, however, is the dynamics of the big picture, to which an individual citizen and even a whole Board of Regents can contribute very little. The established addictions are in high places and cannot be released (unhooked) by illicit sabotage or obstructionism. At best all we, as Regents can do is to try to keep our noses clean, remembering that many of those in high places acquired a part of their habits of thought as students in our schools and universities. It is not a matter only of what we do with our left hands at Livermore and Los Alamos. There is also the effect of the knowledge of those actions permeating the whole educational system. (And do not forget the backlash effect of Livermore and Los Alamos, promoting disgust and horror.) It is not only the evil that we do but also the fact of teaching a corrupt ethics to children.

We live in a world in which distrust and greed and violence masquerade as common sense, and in which the pathways of distrust and greed and violence are rapidly becoming self-validating. By following those pathways we create the social and international structures, the premises upon which we must live. By choosing the "common sense" of distrust, we choose also the progressive truth of distrust. We cause horror to become the only pathway of wisdom.

A schizophrenic patient, observing himself with wry self-knowledge, once told me: *"If it's not the way I want it, I'll prove it."* And alas, in the domain of hate and distrust, it is always easy to vali-

* See Maynard Keynes, *The Economic Consequences of the Peace.*



date hate and distrust by the practise of hate and distrust, and that validation becomes especially convincing when we join up with a partner willing to act as our mirror image, our *alter ego*. National ethics is always more primitive than individual, and the Russians are perhaps always willing to behave as badly as we – and sometimes worse. . . .

The late Robert Oppenheimer made a statement in 1947 which ever since has reverberated in my thinking as the only wise comment I have heard on the international scene. "The world is moving," he said, "in the direction of hell with a high velocity, a positive acceleration and probably a positive rate of change of acceleration. It may perhaps not reach its destination only upon that condition that we and the Russians are willing to let it."

Every move that we (and/or the Russians) make in anxiety, every attempt to postpone the holocaust, speeds the world on its tragic course.

The doctrine of deterrence assumes (to translate all this into cybernetic terms) that the networks of interaction between nations are self-corrective and that negative feedback will result from contributing to the armaments race. But the truth is somewhat more complicated.*

As is commonly the case in biological systems, the short-time deterrent effect is achieved at the expense of long-time cumulative change. The actions which today postpone disaster result in an increase in strength on *both* sides of the competetitive system to ensure a greater instability and greater destruction if and when the explosion occurs. It is this fact of cumulative change from one act of threat to the next that gives the system the quality of *addiction*. The addict may think that each "fix" is like the previous fix, and indeed each is alike in staving off the feelings of deprivation. But, in truth, each fix differs from the previous fix in that the thresholds and magnitudes of all the relevant variables have shifted.

(Those who live on chaparral-covered hillsides in California will recognise a formal analogy between their precarious ecology and that of the international scene. By expensive precautions they may delay the forest fires which would burn up the brush. But this only ensures a taller growth of the chaparral and a more intense conflagration when lightning finally strikes.)

Again it might be argued that these are matters of national policy, not to be examined and criticised by a mere Standing Committee of the Regents. But, in all our deliberations as Regents, I believe that our first duty is as educators to our students. It is, as I see it, a monstrous defection to set an example by cybernetic unwisdom, promoting in the student mind the fallacies of a cowardly short-sightedness: the notion that Armageddon can be infinitely postponed by temporizing measures.

The implications for *character* of a philosophy of deterrence are not fundamentally different from those of appeasement. Both are alike nitwitted, undignified and ultimately lethal. Appeasement and "defensive" distrust are fundamentally similar policies – similar in form and basic outcome – alike leading to postponement and addiction. This is no trivial matter.* To learn this is to wake up. It is to begin to perceive the horror of contemporary politics and that the "commonsense" of their process of deteriorating relationship is nothing but the commonsense of dream. It is the spin off from a shared incorrect perception, a shared nightmare. ■

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* For a more formal discussion of these problems, see Richardson, L.F. "Formalised Foreign Politics," Monograph Supplement No. 23, *The British Journal of Psychology,* 1939.

or: Bateson, G. "The Pattern of an Armaments Race," *Bulletin of the Atomic Scientists,* 1946, where Richardson's argument is summarised in non-mathematical form.

* In more formal terms, symmetrical and complementary schismogenesis are alike in fundamental structure, differing only in sign. In each case the response is to perceived *difference* between the opponents. If that difference be conceived in terms of "strength," then in symmetrical schismogenesis the response is *positive* or *aggressive* to the greater strength of the other. In complementary schismogenesis the reverse is true. See my *Naven,* Stanford University Press, 1958.

Understanding Whole Systems

Gaia

This may turn out to be one of the epochal insights of the 20th century: that the entire life of Earth, through its atmosphere and ocean, functions effectively as one self-regulated organism: Gaia (named by William Golding after the Greek Earth goddess).

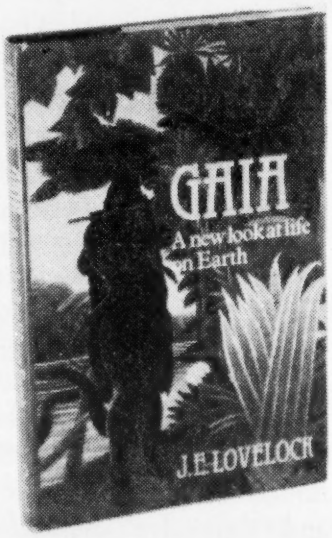
Free-lance British scientist James Lovelock is the originator of the hypothesis (along with American microbiologist Lynn Margulis). As might be expected from a mind with the range to encompass the material requisite for the Gaian recognition, Lovelock writes a winning prose. This is a brief, personal, convincing performance. It even overcomes my lifelong aversion to chemistry, making fascinating sense of the difference between the chemical equilibrium *of a dead planet and the chemical* steady state *of a live one.*

Along the way Lovelock has astute criticism for some of the simplistic thinking that goes on in the environmental movement – as, for example, the premature hysteria over the effect of aerosol sprays on the ozone layer (a problem Lovelock helped discover). He notes that from Gaian perspective we are over-concerned with industrial pollution and under-concerned with protecting the integrity of the all-important tropical jungles and continental shelves of the sea. The health of Gaia is far more endangered by our agriculture than our industry.

As science and as poetry, Gaia (pronounced "gúy - a") is a major planetary self-discovery. It's likely that all our thinking will be re-oriented to accommodate the goddess.

–SB

Gaia:
(A new look at life on Earth)
J. E. Lovelock
1979; 157 pp.
$11.95 postpaid from:
Oxford University Press
16 - 00 Pollitt Drive
Fair Lawn, NJ 07410
or Whole Earth



It would require only an increase of about 4 per cent in the atmospheric level of oxygen to bring the world into danger of conflagration. At 25 per cent oxygen level even damp vegetation will continue to burn once combustion has started, so that a forest fire strted by a lightning flash would burn fiercely till all combustible material was consumed. Those science fiction stories of other worlds with bracing atmospheres due to the richer oxygen content are fiction indeed. A landing of the heroes' spaceship would have destroyed the planet.

•

About half of the mass of the living matter in the world is to be found in the sea.

•

The start of the Gaia hypothesis was the view of the Earth from space, revealing the planet as a whole but not in detail. Ecology is rooted in down-to-Earth natural history and the detailed study of habitats and ecosystems without taking in the whole picture. The one cannot see the trees in the wood. The other cannot see the wood for the trees.

•

By now a planet-sized entity, albeit hypothetical, had been born, with properties which could not be predicted from the sum of its parts. It needed a name. Fortunately the author William Golding was a fellow-villager. Without hesitation he recommended that this creature be called Gaia, after the Greek Earth goddess also known as Ge, from which root the sciences of geography and geology derive their names. In spite of my ignorance of the classics, the suitability of this choice was obvious. It was a real four-lettered word and would thus forestall the creation of barbarous acronyms, such as Biocybernetic Universal System Tencency/Homoeostasis. I felt also that in the days of Ancient Greece the concept itself was probably a familiar aspect of life, even if not formally expressed. Scientists are usually condemned to lead urban lives, but I find that country people still living close to the earth often seem puzzled that anyone should need to make a formal proposition of anything as obvious as the Gaia hypothesis. For them it is true and always has been.

•

No one yet knows what is the optimum number for the human species. The analytic equipment needed to provide the answer is not yet assembled. Assuming the present per capita use of energy, we can guess that at less than 10,000 million we should still be in a Gaian world. But somewhere beyond this figure, especially if the consumption of energy increases, lies the final choice of permanent enslavement on the prison hulk of the spaceship Earth, or gigadeath to enable the survivors to restore a Gaian world.

Gas	Planet			
	Venus	Earth without life	Mars	Earth as it is
Carbon dioxide	98%	98%	95%	0.03%
Nitrogen	1.9%	1.9	2.7%	79%
Oxygen	trace	trace	0.13%	21%
Argon	0.1%	0.1%	2%	1%
Surface temperatures °C	477	290±50	−53	13
Total pressure bars	90	60	0064	1.0

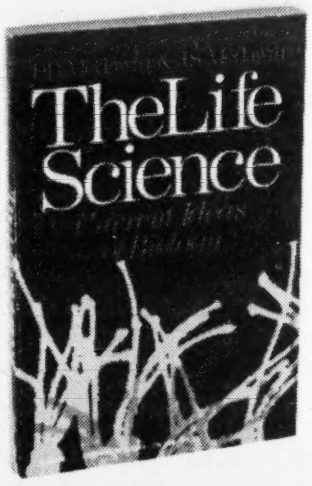
Table 3. Some chemically reactive gases of the air

Gas	Abundance %	Flux in megatons per year	Extent of disequilibrium	Possible function under the Gaia hypothesis
Nitrogen	79	300	10^{10}	Pressure builder Fire extinguisher Alternative to nitrate in the sea
Oxygen	21	100,000	None. Taken as reference	Energy reference gas
Carbon dioxide	0.03	140,000	10	Photosynthesis Climate control
Methane	10^{-4}	1,000	Infinite	Oxygen regulation Ventilation of the anaerobic zone
Nitrous oxide	10^{-5}	100	10^{13}	Oxygen regulation Ozone regulation
Ammonia	10^{-6}	300	Infinite	pH control Climate control (formerly)
Sulphur gases	10^{-8}	100	Infinite	Transport gases of the sulphur cycle
Methyl chloride	10^{-7}	10	Infinite	Ozone regulation
Methyl iodide	10^{-10}	1	Infinite	Transport of iodine

Note: Infinite in column 4 means beyond limits of computation

The Life Science

Biologists who deal with the public world are routinely appalled by the public ignorance of what biologists know and work with. People seem to know and care far more about physics or astronomy, sciences whose news affects them far less than do developments of understanding and technique in biology. Every so often a pissed-off biologist sets out to remedy the situation. The Medawars succeed. In personal, sometimes pungent prose here are your fundamentals, in a form the opposite of a textbook or a journalistic gloss. —*SB*



The Life Science
(Current Ideas of Biology)
P.B. Medawar and
J.S. Medawar
1977; 196 pp.

$3.95 postpaid from:

Harper & Row
General Books
Keystone Industrial Park
Scranton, PA 18512
or Whole Earth

This is a book about *ideas*, with no more factual information than is necessary to make the ideas intelligible. It is therefore in no sense a textbook: for one thing there are no diagrams of the insides of animals, and for another some of its content is too advanced for real beginners. Nevertheless, we think the book is a useful companion for genuine students of biology. It may also interest sociologists, anthropologists, philosophers, psychologists and literary folk who want to learn something of the conceptual framework of modern biology.

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Being alive is a system property, i.e. a characteristic that can be attributed only to an organized system.

•

So far from being 'alive' a virus is simply a piece of bad news wrapped up in protein.

•

At a characteristically noisy cocktail party, people raise their voices in order to make themselves heard, and this adds to the prevailing din so that people must shout louder and louder in order to make themselves heard at all. This continues until eventually they say to themselves, 'I can't *bear* cocktail parties,' and take their leave. This is an example of positive feedback, a fundamentally unstable and in extreme cases self-destructive process.

The Martian Landscape

The pictures in this book blew my mind. For the first time I got the feeling of actually being there, *on* Mars. *The stereo viewer and stereo pictures, which give the illusion of three-dimensional pictures, must be seen by Earthlings. It will take you* there.

I got a sense of the sun moving through the sky and the wind blowing hard. I kept seeing sagebrush in the long shots because some of the scenes resemble New Mexico. No sagebrush on Mars, folks. But you know it's real. It's a planet. Planet consciousness. Extra-planetary consciousness.

—*Michael O. Engle*

The Martian Landscape
The Viking Lander
Imaging Team
1978; 160 pp.

$12 postpaid from:

Supt. of Documents
U.S. Govt. Printing Office
Washington, D.C. 20402
or Whole Earth

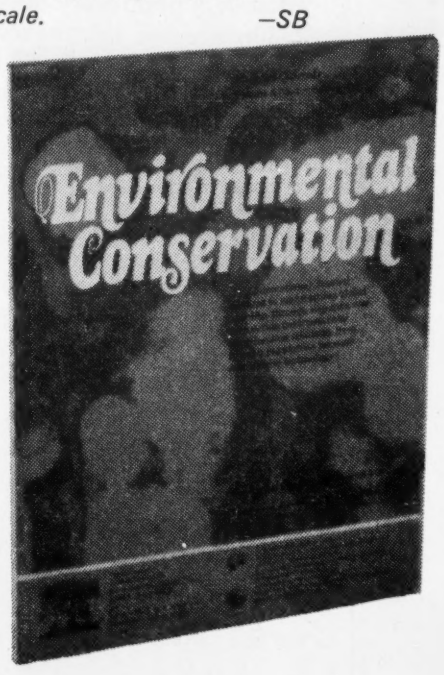
Environmental Conservation

If, as Peter Berg avers, there are two fundamental impulses at war in the world these days — "global uniformity" versus "planetary diversity" — then this magazine qualifies as the single refereed journal most thoroughly in support of planetary diversity. Look at its subtitle (below). The contributors and stories cover the biosphere. And surprisingly, even when they are fairly technical, the articles are readily understandable, perhaps because so many people are politically active in these matters, perhaps because the science involved is human scale. —*SB*

Environmental Conservation
(The international Journal devoted to maintaining global viability through exposing and countering environmental deterioration resulting from human population pressure and unwise technology)
Nicholas Plunin, ed.

$72.25/yr (4 issues) from:

Environmental Conservation
Elsevier Sequoia S.A.
P.O. Box 851
1001 Lausanne 1,
Switzerland



Eighth World Forestry Congress, Held in Jakarta, Indonesia, 16 - 28 October 1978

This Congress, organized by FAO, was attended by over 2,000 participants from some 90 countries. Of the participants, some 1,200 came from outside of Indonesia.

The theme of the Congress was 'Forests for People.' This marked a strong departure from previous meetings of this kind, which had tended to be along the lines of 'forests for foresters.' Discussions focused on the role of forests in rural development (how they support agriculture, by e.g. ensuring regular year-around supplies of water for irrigation, and by reducing soil erosion); on forests as potential sources of food (wild fruits and vegetables of hundreds of kinds, 'bush meat,' and sundry sorts of new fodder); and forests for quality of life (as distinct from quantity of livelihood). . . .

From an environmental standpoint, the Congress was good news for conservationists. There was much talk of 'watershed services,' stressing the critical role of forests. As delegate after delegate pointed out, forests affect the daily lives of people living many horizons away from actual forests - for example, city-dwellers who are dependent on adequate supplies of decent-quality water for their domestic household needs. Moreover, urban communities in many countries of the tropics suffer electricity shortages, public health problems, and other difficulties, related to far-off deforestation. In similar fashion, numerous dams and hydroelectric facilities have had their operational lives grossly shortened through deforestation-caused sedimentation, while irrigation systems, notably in Southeast Asia, are rapidly deteriorating through siltation from degraded watersheds. Above all, a number of forestry economists pointed out that watershed conservation, through reforestation and afforestation activities in addition to protection for existing forests, can be viewed as a 'paying proposition': Conservation is not a luxury, since it can often be justified through its own cost — benefit arithmetic.

The Martian Landscape, late afternoon

CO_2 comments I

These two letters remark upon "Modeling the Global Carbon Cycle" by Philip Conkling, which appeared in CQ *No. 23 (Fall '79) and despaired somewhat at the global increase of atmospheric carbon dioxide.*

Basically, I agree with Philip Conkling about the global carbon cycle and I learned several important facts from his article, however, several inaccuracies detract from its credibility for those who need to be convinced. For instance, I find it very difficult to interrelate Figures 1, 2, 3 in any way that makes sense. In Figure 4, how do carbonates turn into sediments and then into fossil fuels? This would be a very useful process if it were possible. Sediments should come first, dividing into carbonates and oils, the former going to vulcanism and the latter to fossil fuels.

Conkling quotes Fred Hapgood: *"The whole chemistry of life on this planet is founded on carbon — an element that was not present at the creation."* What?! Which creation? Did our silicon-based predecessors transmute it? Perhaps he meant *free* carbon. But then, the chemistry of life isn't based on free carbon.

It should be pointed out that calcium bicarbonate is a relatively unstable molecule. It only exists in solution, under pressure. This is why CO_2 can "boil off" from the oceans. Dissolved CO_2 is almost equivalent to the carbonate and bicarbonate ion. Which form it takes, and how much CO_2 dissolves, depends on the original pH of the water as well as on the concentration of calcium ions, the CO_2 pressure, and the temperature.

The Revelle factor also needs to be explained further.

Fig. 1 shows an 11% increase in atmospheric CO_2 in 17 years. This direct data is what counts in the long run. But Fig. 5 shows a possible total of 4 BMTs (billion metric tons) of carbon per year added to the atmosphere. Suppose that the average was about 3.5 BMTs over the 17 years. We would have about 60 BMTs added to the total of 700 for an increase of only about 8.5%. From the information in these charts, it appears that the mystery is not where the extra carbon is going, but where it's coming from.

The model Mr. Conkling presents, including carbon in the biosphere (green), oceans (blue), atmosphere (clear?) and fossil fuels (black?) almost ignores the much larger amount in the form of carbonate rocks (white?). According to other information sources, for each atom of carbon active in the biosphere, there are about one million atoms of fossilized carbon (total of inactive, unoxidized carbon, including peat bogs, etc.) and about ten million atoms of oxidized carbon deposited in the lithosphere as carbonate rocks.

•

Oxygen (also phosphorus) plays a very important part in the carbon cycle. The ratio of free carbon (plants and fossil fuels) to oxidized carbon (CO_2 and carbonates) can't change very much over long time periods. Burning of carbon slightly reduces the percentage of oxygen in the atmosphere. This reduces the rate of all forms of oxidation, giving dead plant matter more chance to move in the direction of fossil fuels, thereby rebalancing the equilibrium. The extent of the biosphere, or the equilibrium between organic and inorganic carbon, is determined by the amounts of sunlight phosphorus (the biosphere's bottleneck element), both natural and artificial oxidation, the space it's given to absorb sunlight and the kinds of plants we allow to grow. Our problem is that animal life — particularly the intelligent variety — causes an acute imbalance of the equilibrium in the direction of more oxidation, reduces and degrades the photosynthetic surface area of the Earth and wastes phosphorus which is leached away and deposited on the ocean floor.

I once had a fantasy/dream/nightmare in which various nations competed for the Earth's available carbon. We would avoid all unnecessary oxidation, grow plants and convert the unusable portions to relatively inert plastics for storage in the form of platforms over the oceans which would increase our territory. That would reduce the CO_2 and increase the oxygen concentration in the atmosphere, thereby eroding the biosphere in other countries. Then perhaps we would mine more carbon from the carbonate rocks using solar or fusion power, further increasing the concentration of oxygen. This is the other, also undesirable extreme of human affect on the ecology.

In this scenario, as now in many ways, free oxygen can be seen as an undesirable bi-product, already found in excess on the surface of the earth. The basic energy-using activity of all plant life is photosynthesis — separating oxygen from carbon. One of the main energy-using activities of mankind is smelting — separating oxygen from metal — and keeping it separated, especially with iron. Virtually every element on the surface of the Earth is found mainly combined with oxygen and usually has to be separated in order to be used. The crust of the Earth is approximately one-half oxygen by weight. Effects of the solar wind, and extensive use of fusion power will slowly increase the problem by removing hydrogen from the environment, thereby freeing more oxygen. Though it is necessary for the process of transferring energy from plant life to animal life, *excess free oxygen is otherwise the enemy of all life and of human technological accomplishment.*

—Norma Faini
San Francisco, California

CO_2 comments II

Just after I read Philip Conkling's article about global carbon cycles in the Fall '79 issue there came an article in the Portland paper about some research at Oregon State University at Corvallis which is predicting less dire results from doubling of atmospheric CO_2 than earlier studies. One W. Lawrence Gates, chairman of OSU's department of atmospheric sciences is in charge of a sophisticated computer simulation of global climate which predicts only a .5 to 1° C temp (1°-2° F) rise, that mostly over land areas. Apparently, a key difference in Gates' assumptions from earlier ones is that energy reaching oceans doesn't just heat up surface layers but that they are really a huge heat sink or open valve and so won't heat up that significantly. These assumptions are based on his observations of present ocean surface temperature data.

—Tyler Robinson
Portland, Oregon

Theory and practice

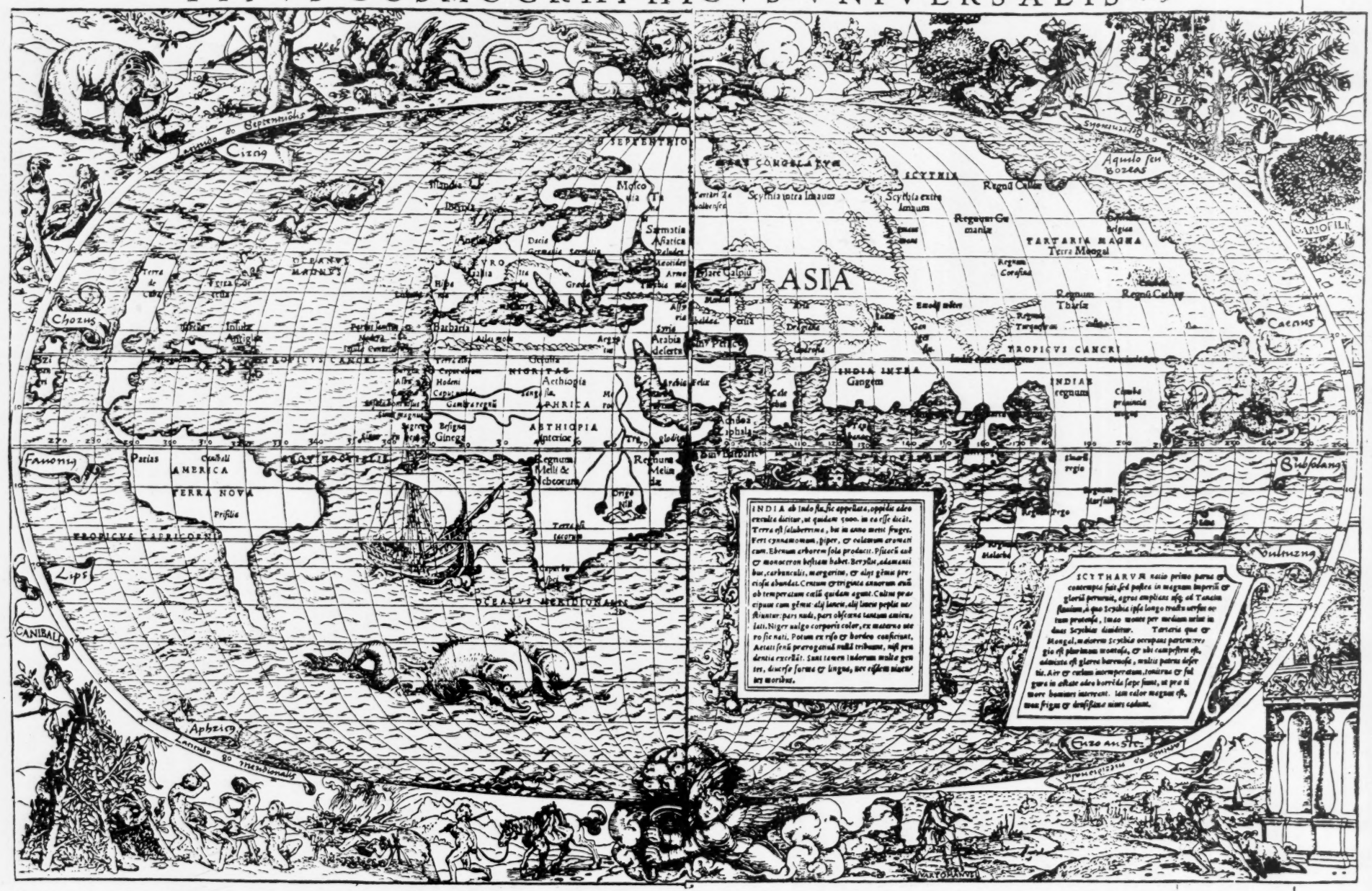
A friend's father argued insistently that nothing could be folded in half more than eight times. It was "theoretically impossible" and had been proven so again and again down through the ages. At home, it took me less time than we spent arguing about it to fold fifty feet of recording tape nine times.

I like the way high-powered thinkers can be gently brought back down to earth.

M.A.W.D. Hoffman
Sturbridge, Massachusetts

Box 428, Sausalito, CA 94965

The First Map to Portray the Earth as a Rotating Sphere – Eleven Years Before Copernicus' *DE REVOLUTIONIBUS*



In the ornamental border there are two angels, one at each pole, working small crank-handles – apparently a minor detail, but unprecedented, so far as we know – and apparently done at a time when the immobility of the Earth was supposed to be obvious to all.

This map was originally published in the introduction to a collection of first-hand travel reports by many of the great explorers of the period (Columbus, Vespucci, Polo, et al.). The map appears in several editions of the book, including the first (1532). Although unsigned and undated, Copernicus expert Edward Rosen attributes the cartography to Sebastian Munster, who wrote the introduction to the book, and the design and engraving of the border, including the angels, to Conrad Schnitt. At the time, Schnitt was head of the engraver's guild in Basel (where the book was published), a member of the Basel City Council, and an active participant in the Protestant Reformation. If he did do the engraving, it must have been before Copernicus' famous *De Revolutionibus* was published in 1543: Schnitt is known to have died in 1541.

Has Conrad Schnitt's "revolutionary" world-view been conveniently overlooked in the rush to honor Nicholas Copernicus? Professor Rosen – whose sympathies are all too obvious – argues: "Certainly Schnitt did not understand the true situation. In the *[Novus Orbis]* map of 1532 he had the angels turn the earth. In [Sebastian Munster's *Organum Uranicum*] of 1536 he had the angels turn the heavens. Schnitt was neither a cosmologist nor an astronomer. He was an artist. For him, the angels were decorative features added to Munster's map and title page, respectively. His angels have no cosmic significance and no scientific meaning. They are purely esthetic."

The Friends of Conrad Schnitt are planning a massive rally in Torun, Poland in 2043 (the 500th anniversary of Copernicus' death) to protest this shoddy example of anti-artist and anti-angel prejudice. Hope to see all of you there. —**Robert Horvitz**

Map and quote are reprinted from "The First Map to Show the Earth in Rotation" by Edward Rosen, *Centerpoint* magazine, fall 1976 (published by the City University of New York, 33 W. 42nd St., New York, NY 10036; individual subscriptions, $8 for four issues).

Gödel, Escher, Bach: an Eternal Golden Braid

"Every few decades an unknown author brings out a book of such depth, clarity, range, wit, beauty and originality that it is recognized at once as a major literary event." So wrote Martin Gardner in the July, 1979 **Scientific American** *in an entire article devoted to the book.*

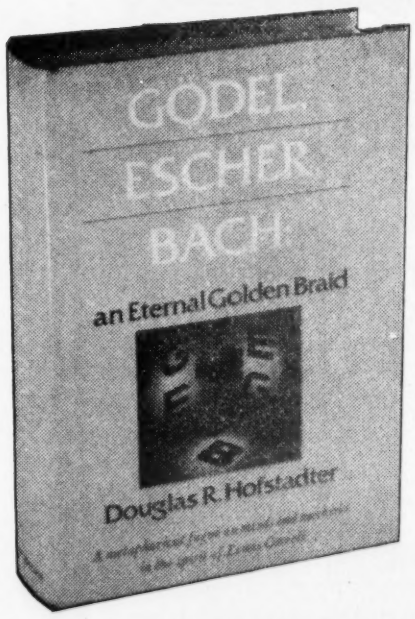
The subject of the book – and the frequent preoccupation of its deities, mathematician Kurt Gödel, artist M.C. Escher, composer J.S. Bach, and writer Lewis Carroll – is self-reference . . . what the author calls "strange loops" or "tangled hierarchies." It is the domain of extreme paradox, where math, art, religion (lots of zen in the book, honestly employed), and epistemology collide. It is the fearless exploration of black holes of the mind.

Hofstadter set out to make Gödel's Incompleteness Theorem accessible to the lay thinker, and happily he succeeds in that. Along the way he illuminates a world of music, mathematics, computer intelligence (and gossip), and philosophy. The book confirms the suspicion I've had for years that perhaps the most adventurous and fruitful human frontier we have these days is the hall of mirrors, Lewis Carroll's looking glass.

The unusual form of this book, thick with graphic devices, deserves comment. We may be seeing a development as profound as the invention of the cartoon strip. Hofstadter's images do not illustrate his words, and the words are not caption to the pictures – they are both the text. *It's interesting that we have here the first popular work by a computer bum, and it a masterpiece. Could his imaginative form of discourse be a by-product of the new tool he lives with?*

The death of good writing among the young has been widely deplored. Maybe they're on the way to coming up with good something else. *–SB*

[Suggested by R. W. Bigham]



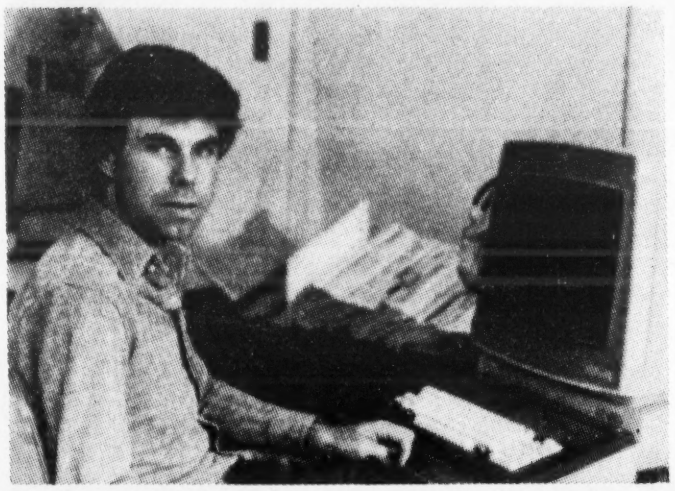
Gödel, Escher, Bach: An Eternal Golden Braid
(A metaphorical fugue on minds and machines in the spirit of Lewis Carroll)
Douglas R. Hofstadter
1979; 777 pp.

$16 postpaid from:

Basic Books, Inc.
10 East 53rd Street
New York, NY 10022
or Whole Earth

At first it looks like a collection of somewhat random blobs, but if you step back a ways and stare at it for a while, all of a sudden, you will see seven letters appear in this . . .

•



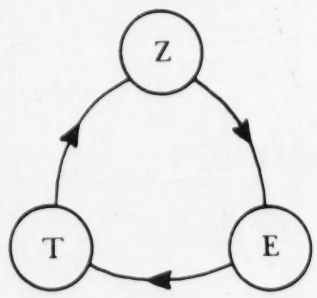
Douglas R. Hofstadter

A friend said to me, "My uncle was almost President of the U.S.!" "Really?" I said. "Sure," he replied, "he was skipper of the PT 108." (John F. Kennedy was skipper of the PT 109.)

In everyday thought, we are constantly manufacturing mental variants on situations we face, ideas we have, or events that happen, and we let some features stay exactly the same while others "slip". What features do we let slip? What ones do we not even consider letting slip? What events are perceived on some deep intuitive level as being close relatives of ones which really happened? What do we think "almost" happened or "could have" happened, even though it unambiguously did not? What alternative versions of events pop without any conscious thought into our minds when we hear a story? Why do some counterfactuals strike us as "less counterfactual" than other counterfactuals? After all, it is obvious that anything that didn't happen didn't happen. There aren't degrees of "didn't-happen-ness." And the same goes for "almost" situations. There are times when one plaintively says, "It almost happened," and other times when one says the same thing, full of relief. But the "almost" lies in the mind, not in the external facts.

•

There are three authors – Z, T, and E. Now it happens that Z exists only in a novel by T. Likewise, T exists only in a novel by E. And strangely, E, too, exists only in a novel – by Z, of course. Now, is such an "authorship triangle" really possible?



Of course it's possible. But there's a trick . . . All three authors Z, T, E, are themselves characters in another novel – by H! You can think of the Z-T-E triangle as a Strange Loop, Or Tangled Hierarchy; but author H is outside of the space in which that tangle takes place – author H is in an inviolate space. Although Z, T, and E all have access – direct or indirect – to each other, and can do dastardly things to each other in their various novels, none of them can touch H's life! They can't even imagine him – no more than you can imagine the author of the book *you're* a character in. If I were to draw author H, I would represent him somewhere off the page. Of course that would present a problem, since drawing a thing necessarily puts it *onto* the page . . . Anyway, H is really outside of the world of Z, T, and E, and should be represented as being so.

The Right Stuff

It seemed so improbable when the book finally arrived that anticlimax best describes my reaction. Clare and I had bugged Tom so mercilessly over the preceding four or five years that it was the cajoling that seemed normal and the actual existence of the work a threat to our relationship. A little like the difference between cheesecake and nudity. Promises, promises.

And then there was the difficulty in extracting the book from the rest of my family. After living with me and among the others for many years, it was exciting to find out what being an astronaut was like. Not that I didn't talk with my wife and kids – but I lived and reflected the middle of the reality, and Tom deals in edge effects. That's where the action is. Gregory Bateson's point: the reality is in the difference between things, not the things themselves. And Tom Wolfe has special prescription contact lenses that filter out the memoranda, meetings, reviews, milestones, simulators, procedures, checklists, protocols, etc., etc., and zoom in on Pete Conrad's enema and Al Shepard's enigmatic double personality.

Well, the wife finished the book and the kids went off to college and I got my chance to confirm first-hand their unsolicited testimonials. Now mind you, I've seen lots written about the astronauts, the program, the personalities, the challenge. Most of it bad and inaccurate, grinding some axe or other, some of it accurate and boring, and occasionally a good shot like Mike Collins' **Carrying the Fire**. *But nothing I've read paints the essential history as Tom Wolfe has done here.*

It's far from a complete history since the subject (except for Pete Conrad who is too juicy to pass up) is the fabulous First Seven and the Mercury Program. Missing from view are the thousands of characters whose brains and determination got the program off the ground. But that's classical history not Wolfeian. This is definitely written from the perspective of one "on the bus" – or "in the capsule" as it were.

My own delight with the book came not only from the Tom Wolfe which many (if not most) people appreciate, but from the Tom Wolfe whom only those on the inside can appreciate. The subtle groupings and relationships between the characters which are captured in a turn of phrase or literary glance brought many slow smiles of amazement to my face. How could he have picked up such valid subtleties without having lived it?

–Russell Schweickart
(Apollo 9 Astronaut)

The Right Stuff
Tom Wolfe
1979; 436 pp.
$12.95 postpaid from:

Farrar, Straus and Giroux, Inc.
19 Union Square West
New York, NY 10003
or Whole Earth

So Conrad reports at seven one morning and gives himself the enema. He's supposed to undergo a lower gastrointestinal tract examination that morning. In the so-called lower G.I. examination, barium is pumped into the subject's bowels; then a little hose with a balloon on the end of it is inserted in the rectum, and the balloon is inflated, blocking the canal to keep the barium from forcing its way out before the radiologist can complete his examination. After the examination, like everyone who has ever been through the procedure, Conrad now feels as if there are eighty-five pounds of barium in his intestines and they are about to explode. The Smocks inform him that there is no john on this floor. He's supposed to pick up the tube that is coming out of his rectum and follow an orderly, who will lead him to a john two floors below. On the tube there is a clamp, and he can release the clamp, deflating the balloon, at the proper time. *It's unbelievable!* To try to walk, with this explosive load sloshing about in your pelvic saddle, is agony. Nevertheless, Conrad has on only the standard bed patient's tunic, the angel robes, open up the back. The tube leading out of his tail to the balloon gizmo is so short that he has to hunch over to about two feet off the floor to carry it in front of him. His tail is now, as the saying goes, flapping in the breeze, with a tube coming out of it. The orderly has on red cowboy boots. Conrad is intensely aware of that fact, because he is now hunched over so far that his eyes hit the orderly at about calf level. He's hunched over, with his tail in the breeze, scuttling like a crab after a pair of red cowboy boots. Out into a corridor they go, an ordinary public corridor, the full-moon hunchback and the red cowboy boots, amid men, women, children, nurses, nuns, the lot. The red cowboy boots are beginning to trot along like mad. The orderly is no fool. He's been through this before. He's been through the whole disaster. He's seen the explosions. Time is of the essence. There's a hunchback stick of dynamite behind him. To Conrad it becomes more incredible every step of the way. They actually have to go down an elevator – full of sane people – and do their crazy tango through another public hallway – agog with normal human beings – before finally reaching the goddamned john.

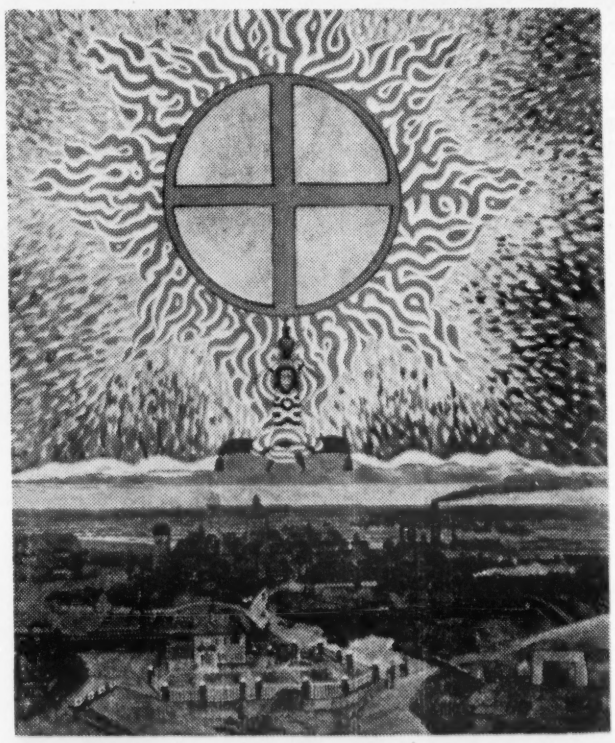
C. G. Jung: Word and Image

If not nothing, then Jung is surely image. This collection by an old collaborator of his takes his lifelong caterpillar-crawl of thought and gives it colorful flight and new life. Jung's biography is visible, as well as the things he saw that moved him, the archetypal images he recognized, and his own bizarre beautiful paintings, carvings, buildings. He lived with beautiful care. The book is bright and clear and not the slightest bit slick. –SB

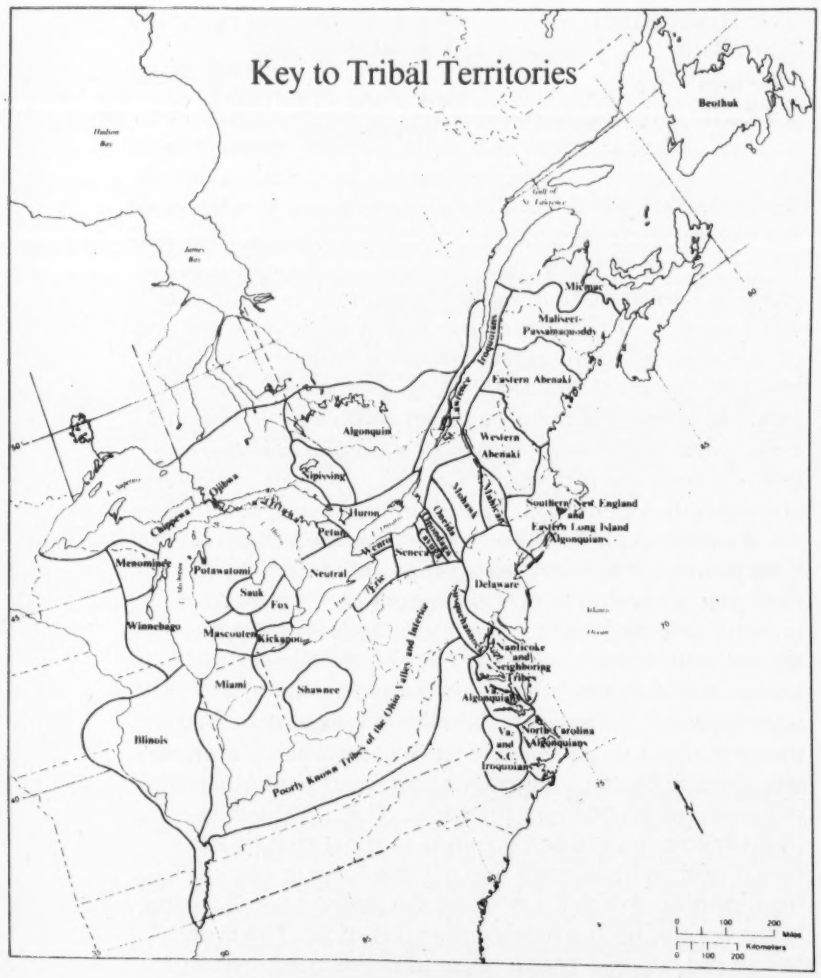
C. J. Jung:
Word and Image
Aniela Jaffé, ed.
1979; 238 pp.

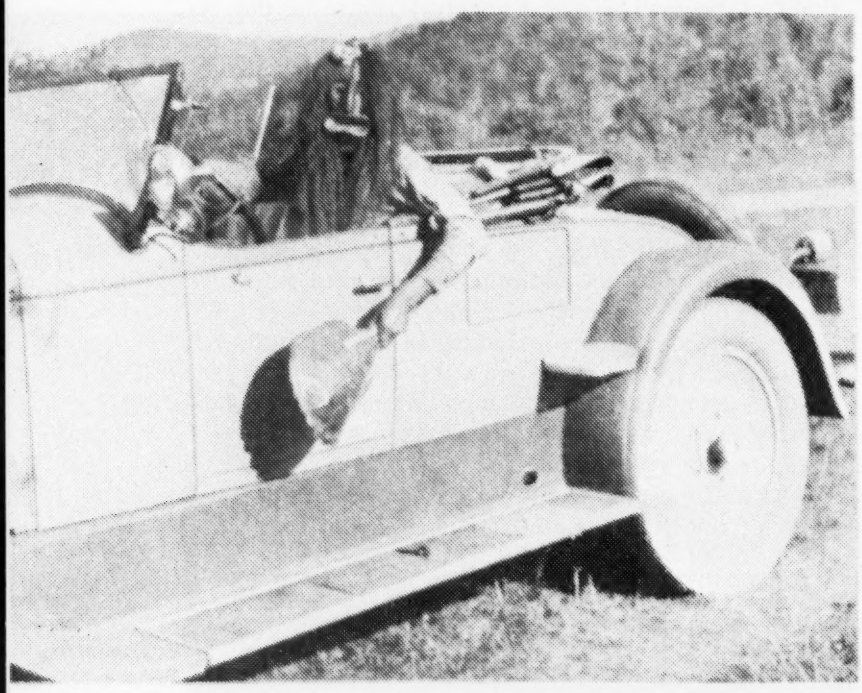
$25 postpaid from:

Princeton Univ. Press
Princeton, NJ 08540
or Whole Earth



Symbol of the sacred in a ring of flames floating above the world of war and technology. Painted in 1920, it was inspired by a dream Jung had had on 22 January 1914, anticipating the outbreak of war in August 1914.





Sherman Red Eye driving a Packard preparatory to a feast for the False Face Society at the Allegany Seneca community. Photograph by William N. Fenton, Aug. 1, 1934.

Virginia Algonquian, 23 years of age. Engraving by Wencelaus Hollar, 1645.

Handbook of North American Indians Vol. 15: Northeast

These are the first two volumes in a twenty volume set of the Smithsonian's encyclopedia of what's known about the earliest peoples of North America, the people here at the time of European contact and the present-day descendants of these peoples. These volumes will be our basic references for all time and, though cumbersome in approach and prose, they are filled with absorbing photos and information. A GREAT price for such a mountain range of historical reference. —Peter Warshall

I do not understand why these books are not getting any reviews in the popular press. They are simply superb, a major event in American publishing. They can have immeasurable influence on the healthy "re-inhabiting" of North America if only they are used, enjoyed. Maybe the American book-reviewing apparatus is too lightweight to handle work of this scope. —SB

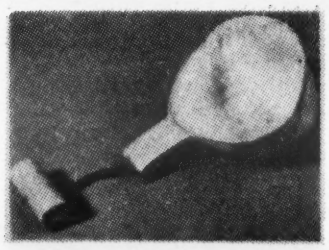
Handbook of North American Indians
(Vol. 15: Northeast)
1978; 924 pp.

$14.50 postpaid from:
Supt. of Documents
U.S. Govt. Printing Office
Washington, D.C. 20402
or Whole Earth

The research of Porter (1971), Aptheker (1939), and Woodson (1918) demonstrates the extent to which Negro slaves ran away, were sheltered by Indians, and intermarried with them. Furthermore, Indians themselves were often enslaved and held in bondage along with Blacks, with whom they mixed. Free Black ancestors are also demonstrable for some groups. However, the history of only a few mestizo communities has been the subject of scholarly research, and the origin and development of most of them remain undocumented.

•

After 1640 the Jesuits succeeded in converting over 100 Hurons every year, and by 1646 there were about 500 practicing Huron Christians. To accomplish this, the Jesuits used a variety of different approaches. They consciously strove to impress the Hurons with their technological superiority and greater knowledge, including the ability to predict eclipses. The Hurons, it was hoped, would interpret this prescience as evidence of their supernatural power. They also offered material assistance to those who lacked kinsmen, or suffered from other misfortunes, in the hope that succor would win their affection. Although a small number of Hurons became Christians in the hope of acquiring the Jesuits' shamanistic power, relatively few appear to have been converted by these techniques alone. On the other hand, many men decided to convert for other highly practical reasons. Christians were treated better than were non-Christians when they traded with the French, and they were also paid higher prices for their furs. Moreover, after 1641, when muskets were sold to the Hurons for the first time, they could be obtained only by reliable converts. These regulations led to the baptism of many traders and warriors.



Abenaki carrying cup, carved of hardwood burl. The cup is attached to a wooden toggle with a leather thong that is tucked under the belt. Collected at Odanak in 1914. Diameter of cup (excluding handle), approximately 6 cm (2½").

Handbook of North American Indians
Vol. 8: California

1978; 800 pp.
$13.50 postpaid

In California the aboriginal population had considerable effect on the landscape, almost entirely by means of fire, as explained by the insightful analysis of H.T. Lewis (1973). The following summary of the fire ecology of grassland, woodland, chaparral, and coniferous forest relies heavily on his work.

The Indian practice . . . would have contributed to a dynamic equilibrium with respect to trees, grasses, and shrubs that resulted in open parkland productive of acorns, grass seeds, and winter feed for deer and other grazers. . . .

When chaparral is mature (that is, when there is no fire over long periods) it does little more than maintain the shrub growth and is little benefit to either man or the animals he hunts. In an experiment, "an area of prescribed-burned chamise chaparral was compared with a similar unburned area as a control. Counts of deer in the burned area showed a summer population density of about 98 per square mile after the initial burning treatment. This rose to 131 in the second year and dropped to 84 in the fifth and sixth years. In the dense, untreated brush the summer density was only 30 per square mile" (Biswell 1967:81). . . .

From the standpoint of range management, the evidence indicates that the aboriginal practices were near optimum. The two elements of such management are burning in open areas (spot burning) within brush stands and burning both fall and spring. The first element, spot burning, is desirable because it maximizes the amount of edge vegetation (producing superior browse for deer) and also provides many areas of grass and herbaceous plants useful to both humans and game animals.

•

In northwestern California it was believed that everything humans did was derived from the way it was done in myth times. Originally the world was populated by a prehuman race of people who worked out how everything should be done. They waited until the present people appeared, taught them everything they knew, and then turned into animals, plants, rocks, and mountains (Harrington 1932:8).

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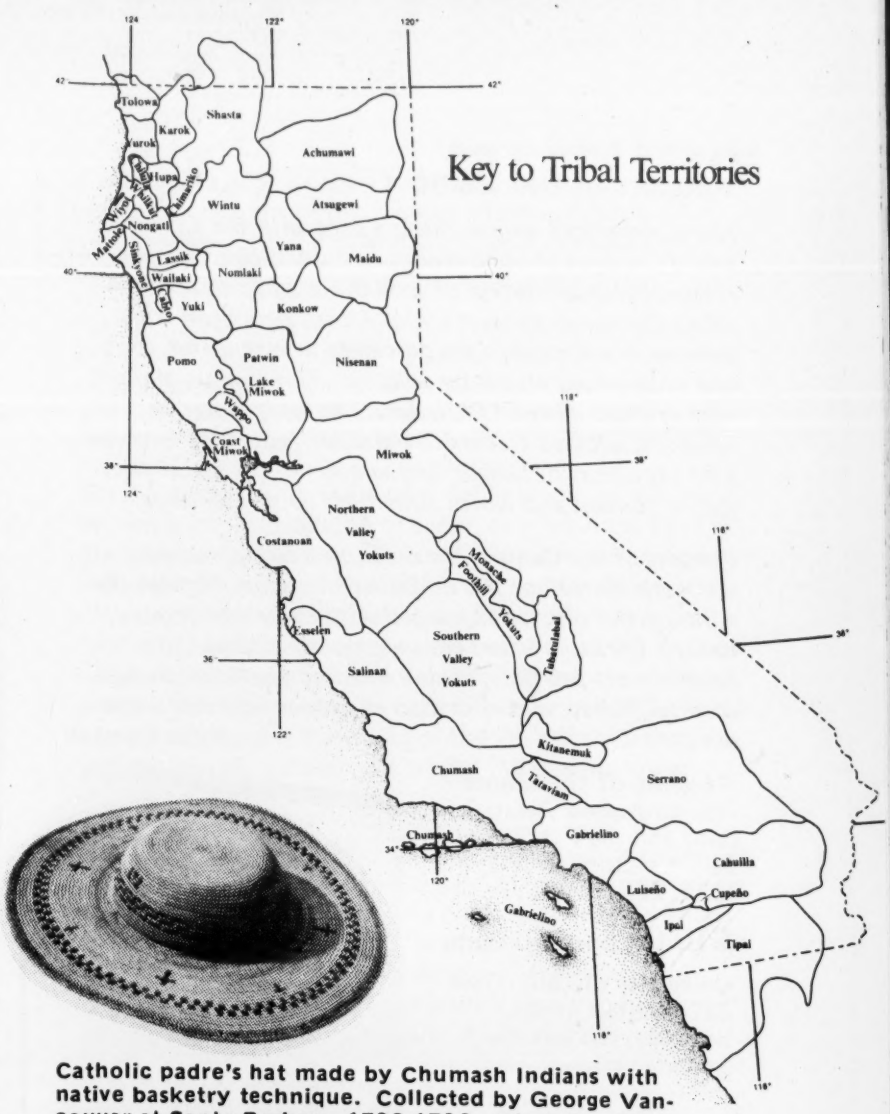
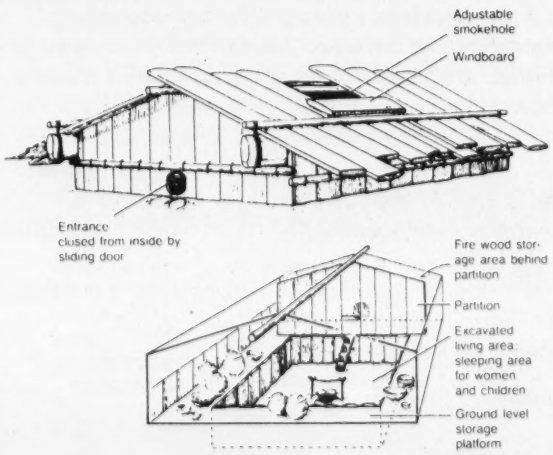
The living Yurok never spoke to dogs, and when asked why they said, "The dog might answer."



Catholic padre's hat made by Chumash Indians with native basketry technique. Collected by George Vancouver at Santa Barbara, 1792-1793. Diameter about 40 cm (16").

Mrs. Freddie, Hupa, pouring water from a basket cup into acorn meal being leached in a hollow in the sand. To her right is an acorn-collecting basket. Photograph by Pliny E. Goddard, 1902.

Reconstruction of Tolowa dwelling house. Exterior viewed from front, interior viewed from rear.



Chino village of subterranean dwellings and acorn caches near the former town of Monroeville, at the mouth of Stony Creek, Drawing by Henry B. Brown, 1852.

Keepers of the Game

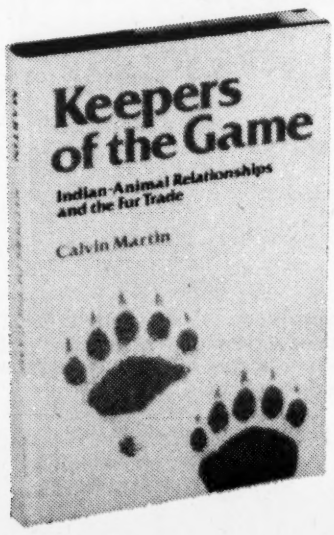
North American natives made a pact with the animal world — a pact of good manners, mutual courtesy and reasonable exploitation of each other's populations. When European diseases struck North American tribal peoples, the diseases were perceived as a vengeful, rude and unbalanced attack by wildlife. This disillusionment with animals allowed Christianity to replace native religions, allowed traders to persuade Indians to become avid exploiters of beaver, and ended the dialog between native humans and North America's living creatures.

Keepers of the Game *is the most interesting, recent academic history of the European conquest. It includes a thoughtful discussion, tinged with cynicism, about today's Christian-based conservationist attempt to resurrect the pre-Columbian Indian as the Noble Savage, guru to Whitey, and wise man of proper land and water use policies.* —*Peter Warshall*

Keepers of the Game
(Indian-Animal Relationships and the Fur Trade)
Calvin Martin
1978; 225 pp.

$10.95 postpaid from:

University of Calif. Press
2223 Fulton Street
Berkeley, CA 94720
or Whole Earth



One should bear in mind that the first wave of epidemics, such as that recounted for Le Clercq by the Cross-bearers, was more than likely not associated with a human source — certainly not a European source. The relatively few Europeans who seeded the coastal areas with their lethal microbes were never beheld by the majority of their victims, since the epidemics they triggered were spread inland by infected natives. Given these circumstances, and the Indian's tendency to associate serious illness with offended wildlife spirits rather than infected humans, it is not unreasonable to assume that animals were the first to be blamed for maliciously spreading disease.

•

Game was abundant in late prehistoric times simply because the Indians were too few, too poorly equipped, and without sufficient incentive to harvest more than the surplus. The introduction and adaptation to the European marketplace and technology removed two of the three obstacles to overkilling, and we might add, the Indian was quick to respond. . . .

The record seems emphatic on this issue: the post-contact Indian wasted game with gusto. On the Great Plains he and his forefathers tumbled scores of buffalo over escarpments to their death, leaving most of the carcasses there to putrify; in the barren grounds to the north he apparently senselessly decimated the migrating caribou herds; in the boreal zone in between he overhunted the moose; and on innumerable watercourses throughout the continent he trapped out the beaver completely. How, in the face of such incriminating evidence, can the Indian be held up as a "pioneer" ecologist? Where is the Indian's so-called reverence for Nature in the confused mass of a bison heap or the stillness of an empty beaver pond? Strickland begged the question by extolling the "ideal" of the Indian; Udall lamely admitted, elsewhere, that once he had been exposed to European material goods, "the Indian, too, became a raider of the American earth." The others seem to have ignored the issue altogether.

Nature, for virtually all North American Indians, was sensate, animate, and capable of aggressive behavior toward mankind. When Indians referred to other animal species as "people" — just a different sort of person from man — they were not being quaint. Nature was a community of such "people" — "people" for whom man had a great deal of genuine regard and with whom he had a contractual relationship to protect one another's interests and fulfill mutual needs. Man and Nature, in short, were joined by compact — not by ethical ties — a compact predicated on mutual esteem. This was the essence of the traditional Indian-land relationship.

There is something immensely attractive about such a view of Nature. Yet it would be naive to think that Western man could himself subscribe to it, and so cure his environmental miseries. If the Judeo-Christian tradition has taught us anything, it has convinced us that Yahweh is one God. Nature, in the Christian realm, is anything but animated.

Otter by Joe David (Northwest Coast)

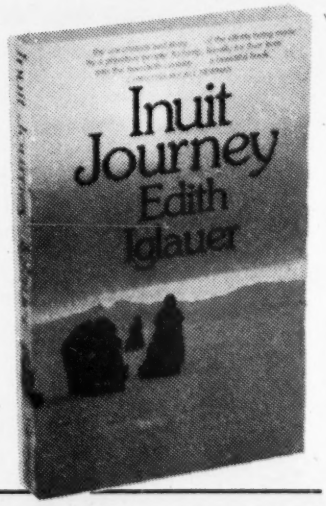
Inuit Journey

There is too much moaning about the passing of old cultures. Let us welcome those peoples who do live in the twentieth century into the here and now. Help them contact and understand the overdeveloped West; avoid its pitfalls; balance the West's material wealth with their more humane "old ways." **Inuit Journey** *describes the formation of first tribal cooperatives that started in the Arctic twenty years ago. Written in that impeccable* **New Yorker,** *straightforward, tortureless, informative prose.* —*Peter Warshall*

Inuit Journey
Edith Iglauer
1979; 320 pp.

$5.95 postpaid from:

Univ. of Washington Press
Seattle, WA 98105
or Whole Earth



American Indian Art Magazine

From the luxury of Scottsdale, Arizona, comes a quarterly magazine bridging the old crafts of Native Americans with the new, amazing commercial growth of contemporary Indian Art. Luscious photographs and thoughtful articles are sandwiched between ads for the most popular and, sometimes, the best galleries showing today's jewelry, blankets, baskets, silkscreens, paintings and sculpture — all in the native American tradition. (Request the Autumn 1978 issue for Bill Benton's article on the late T.C. Cannon — one of the finest painter-lithographers this continent has ever nurtured.) —*Peter Warshall*

American Indian Art Magazine
$12 /yr (4 issues)
$3 /single copy
from:
Circulation Department
7333 E. Monterey Way No. 5
Scottsdale, AZ 85251

T. C. Cannon self-portrait

The Ohlone Way

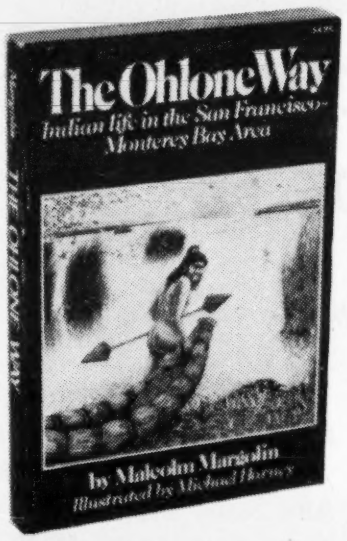
Margolin's book is in the grand tradition of American literary anthropology: the imaginative reconstruction of the by-gone days of this continent's tribal peoples. An admirable job of re-creation from the still surviving pieces of tattered information. His fine descriptions of pre-conquest California will hopefully make this book a regional best seller. —*Peter Warshall*

You know, such a book could be made for every region in the U.S., on the continent, on Earth. Without such felt history, *respect is impossible.* —*SB*

The Ohlone Way
(Indian life in the San Francisco - Monterey Bay Area)
Malcolm Margolin
1978; 182 pp.

$4.95 postpaid from:

Heyday Books
Box 9145
Berkeley, CA 94709
or Whole Earth



The intermingling of grasslands, savannahs, salt- and freshwater marshes, and forests created wildlife habitats of almost unimaginable richness and variety. The early explorers and adventurers, no matter how well-travelled in other parts of the globe, were invariably struck by the plentiful animal life here. "There is not any country in the world which more abounds in fish and game of every description," noted the French sea captain, la Perouse. Flocks of geese, ducks, and seabirds were so enormous that when alarmed by a rifle shot they were said to rise "in a dense cloud with a noise like that of a hurricane." Herds of elk — "monsters with tremendous horns," as one of the early missionaries described them — grazed the meadowlands in such numbers that they were often compared with great herds of cattle. Pronghorn antelopes, in herds of one or two hundred, or even more, dotted the grassy slopes.

•

Into this land of plenty, this land of "inexpressible fertility" as Captain la Perouse called it, arrived the European and the rifle. For a few years the hunting was easy — so easy (in the words of Frederick Beechey) "as soon to lessen the desire of pursuit." But the advantages of the gun were short-lived. Within a few generations some birds and animals had become totally exterminated, while others survived by greatly increasing the distance between themselves and people.

Today we are the heirs of that distance, and we take it entirely for granted that animals are naturally secretive and afraid of our presence. But for the Indians who lived here before us this was simply not the case. Animals and humans inhabited the very same world, and the distance between them was not very great.

The Ohlones depended upon animals for food and skins. As hunters they had an intense interest in animals and an intimate knowledge of their behavior. A large part of a man's life was spent learning the ways of animals.

•

The men crowd together near the back wall of the sweat-house, and there is much joking and satisfaction among them. It is a good hot fire today; the older men feel a welcome looseness in their joints. Among them is a fourteen-year old youth, and they begin to tease him.

"Area you going to run out again today?" they ask.

"Make sure you run through the door and not through the wall," someone advises, and the other men laugh loud and long.

The young man does not answer. As the heat intensifies he feels the sweat ooze out of his pores and flow in rivulets down his body. Following the example of the others he runs a curved rib bone of a deer over his body to drain the sweat. He has been admitted to the sweat-house only a month before, yet (despite the teasing) he already feels a welcome easiness here, a sense of being at home. In fact, as he squats against the back wall he has the curious sense that he has been here a million times before. It is as if the closed sweat-house with its cluster of men is the real, eternal world, and the world of the village, the meadows, and the woods is merely a colorful but passing dream.

•

Almost every woman in the village was a basketmaker, almost every woman was an artist. In her lifetime a woman would have made (and continually used) storage baskets, winnowing baskets, hopper baskets, gambling trays (onto which dice were thrown), water-carrying baskets, trinket baskets, seed beaters, cooking baskets, serving baskets, and still others. Each of these baskets had a shape that was esthetically pleasing and at the same time perfectly appropriate to its specialized function — a shape that did not come into being overnight, but had been developed and improved over centuries of Ohlone basketmaking. The patterns of the basket, created by thousands of precise little stitches (perhaps as many as 25,000 stitches for a medium-sized basket) had an aliveness like a pointillist painting; even calm, geometrical designs seemed to be buzzing with inner life.

Looking at Indian Art of the Northwest Coast

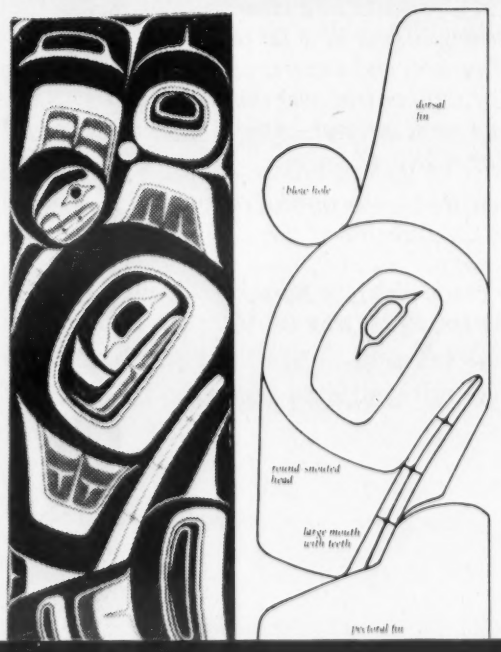
Ever spent hours trying to decipher the animal depicted on a Kwakiutl totem pole or Haida spruce-root hat? Ever tried to draw the images created by the careful and intricate artists of the highly baroque civilization of the Pacific Northwest? This is the field guide. Even better, a guide to the contemporary north coast artists who have updated the old ways on T-shirts, silkscreens and modern building walls. —*Peter Warshall*

Looking at Indian Art of the Northwest Coast
Hilary Stewart
1979; 111 pp.

$6.95 postpaid from:

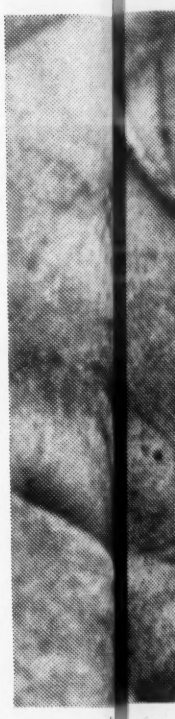
University of Wash. Press
Seattle, WA 98105
or Whole Earth

Totally filling a narrow vertical field, Robert Davidson's Killer Whale is depicted simply by the head and the blow hole, with the dorsal fin above and the pectoral fin below.



Plant Patenting

Sowing the Seeds of Destruction



by Cary Fowler

American agriculture is imported. All major food crops grown in North America originated elsewhere, in what we call the Third World. For Americans there is really no such thing as the home-grown meal. Wheat, spinach and apples, for example, are from Asia. Soybeans come from China. Corn and tomatoes originated in Central America. Potatoes are from the Andes and Sorghum originated in Africa. Only hops, Jerusalem artichokes, sunflowers, a couple of berries and a few other minor foods originated in North America.

Nearly all of our food crops are of ancient origin. Thousands of years ago our Stone Age ancestors began domesticating plants, saving the best seed for replanting the next year. Human efforts and natural selection processes resulted in different varieties of food crops becoming adapted to "different niches in the ecosystem." The result was thousands of varieties of wheat, rice, corn and other crops as genetically distinct as beagles and great danes. In diversity there was strength. As pests and diseases changed or mounted more powerful attacks, plants evolved different or better defenses. These defenses were represented in the genetically diverse varieties of each crop. Modern agriculture is changing this natural system.

With the breeding and marketing of new "improved" varieties, traditional varieties are being replaced. Farmers and gardeners stop growing them. Field after field is planted with one variety. Where thousands of varieties of wheat once grew, only a few can now be seen. When these traditional plant varieties are lost, their genetic material is lost forever. Herein lies the danger. Each variety of wheat, for example, is genetically unique. It contains genetic "material" not found in other varieties. If, because of genetic limitations which result from inbreeding, new varieties are no longer

The other day I saw someone wearing a pin that said, "I'm ready *for the Eighties!" In these waning days of the Me Decade, here is yet another true episode of humanity's continued mindlessness about its future. Illegal vegetable seed is a reality in Europe, and soon may be in America.*

This is more a story of unintended consequence than deliberate subterfuge, but that doesn't change the potential seriousness of the result. On one side is the biological fact that there is strength, including survival capability in an evolutionary sense, in diversity, especially genetic diversity. On the other side is the right to make a profit, protect a market, and be big (the corporate mentality), or more particularly, the role of government in protecting and insuring that right.

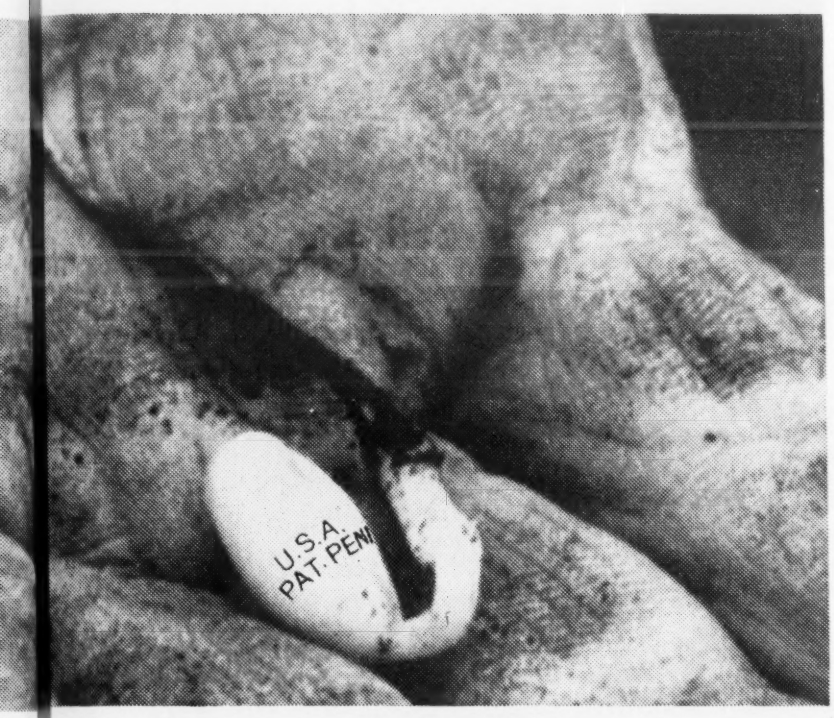
In the Common Market countries next summer, it will become illegal to sell the seed of over 2,000 vegetable varieties. A small portion of this number represents name standardization: the same seed sold in three different countries under three different varietal names will now have one name. But most of these 2,000 are being proscribed to enforce plant patenting laws and protect patented vegetables owned by seed companies that are genetically similar to the older varieties.

If you have seed from one of these varieties – let's say the people in your neighborhood have been growing it for the last several hundred years – you can continue to raise it as long as you don't try to sell the seed. The term "illegal vegetables" is technically a misnomer, but the question remains: who will continue to raise these 2,000-plus varieties, and keep their unique genetic traits available for the plant breeders of the future? The answer is unclear; probably no one, but certainly not the seed companies.

This battle is a microcosm of the species depredation happening on a global scale today due to development of all kinds. It is the Tellico Dam/snail darter issue all over again, but this time hopefully hitting a little closer to home and our stomachs (the snail darter lost). That it is happening at all should be a clear and present warning of just how far our leaders and institutions and experts are from any kind of self-control over our species' own long-term survival. Are you *ready for the Eighties?*

Cary Fowler, whistle-blower on this obscure scam, is Co-Director of the National Sharecropper Fund's Frank Porter Graham Demonstration Farm and Training Center, Rt. 3, Box 95, Wadesboro, NC 28170.

–Richard Nilsen



resistant to certain insects or diseases (conceivably even insects or diseases never before known to attack wheat), then real catastrophe could strike. Without existing seeds which carry specific genes conferring resistance, it may not be possible to breed resistance back into wheat, corn, or any other crop.

How serious is the situation? The National Academy of Sciences warns us that "most crops are impressively uniform genetically and impressively vulnerable." Respected scientists speak of agriculture's questionable future. Others talk of the "collapse of civilizations" that would accompany another major genetic-related crop disaster like the Irish potato famine. These fears are not far-fetched. Perhaps the most endangered of our crops, according to the National Academy of Sciences, is wheat, the dietary foundation of millions of people. What will happen when the genetic material needed to confer resistance has vanished with a plant variety now extinct?

Graham Center Seed Directory

Genetic Uniformity

Extent to which Small Numbers of Varieties Dominate Crop Acreage in the U.S.

Crop	Major Varieties	% of Acreage Devoted to These Varieties
Bean, dry	2	60
Bean, snap	3	76
Cotton	3	53
Corn	6	71
Millet	3	100
Peanut	9	95
Peas	2	96
Potato	4	72
Rice	4	65
Soybean	6	56
Sugar beet	2	42
Sweet potato	1	69
Wheat	9	50

Seeds As Big Business

Recently a rush of mergers and corporate take-overs has hit the seed industry, creating much cause for alarm. Old, family-owned seed businesses have been, and are being, bought up by large multinational chemical and drug firms – the same companies that manufacture pesticides and fertilizers. Purex now owns Ferry-Morse, Sandoz (a Swiss chemical and drug conglomerate) owns Northrup-King, and ITT has just purchased Burpee. In addition, Celanese, Ciba-Geigy, Monsanto, Shell, Pfizer, Union Carbide and Upjohn have all recently bought seed companies.

Will these big corporations encourage their new seed company subsidiaries to develop plant varieties that require more or fewer pesticides and fertilizers? The answer seems clear. Already many of the companies listed above have begun to develop and patent processes to coat seeds with herbicides and pesticides, thus using seeds as a delivery system for chemicals into the field. With this development, the link is forged between the marketing of seeds and agricultural chemicals.

Arrest That Plant!

As seeds have become big business, pressure has been put on governments around the world to insure high profits for the seed industry. Many governments have passed laws allowing companies to patent new varieties of plants, in effect to patent life.

Plant patenting laws, however, benefit only those companies big enough to hire teams of researchers to develop new varieties. Since the passage of such laws in the United States, the government has granted 73 patents on beans. Over three-quarters of these patents are held by just four corporations: Purex, Sandoz, Union Carbide and Upjohn. Armed with the monopoly provided by patents, these large corporations can confidently jack up prices. Meanwhile, smaller seed companies are forced to specialize in a dwindling number of unpatented varieties.

Plant patenting laws were first instituted in Europe in the early 1960s at the urging of French rose breeders. What is the European experience with these laws? In Europe, enforcement has proven to be a legal jungle. It is almost impossible to prove in court that "your tomato is genetically identical to my patented variety." In order to prevent confusion with patented varieties, the Common

Some Recent North American Seed Company Takeovers

New Owner	Seed Company
Anderson Clayton	Paymaster Farms Tomco-Genetic Giant
Cargill	Dorman Seeds Kroeker Seeds PAG
Celanese	Cepril Inc. Moran Seeds Joseph Harris
Central Soya	O's Gold Seed Co.
Ciba-Geigy	Funk Seeds Int'l. Stewart Seeds Louisiana Seed Co.
FMC Corp.	Seed Research Assoc.
Garden Products	Gurney Seeds
Hilleshoeg/Cardo	Int'l. Forest Seeds Co.
Int'l. Multifoods	Baird Inc. Lynk Bros.
I.T.T.	Burpee Seeds O.M. Scott & Sons
Kent Food Co.	L. Teweles Seed Co.
Kleinwanzieberer Swatzucht AG	Coker's Pedigreed Seed Co.
NAPB (Olin & Royal Dutch Shell)	Agripro, Inc. Tekseed-Hybrid
Occidental Petroleum	Ring Around Products
Pioneer Hi-bred	Lankhart Lockett Arnold Thomas Seed Co.
Pfizer	Clemens Seed Farms Jordan Wholesale Co. Trojan Seed Co. Warwick Seeds
Purex	Advanced Seeds Ferry-Morse Seeds Hulting Hybrids
Rorer-Amchem	Jacques Seed Co.
Sandoz	National-NK Northrup-King Rogers Brothers
Southwide, Inc.	Delta & Pine Land Greenfield Seed
Tate & Lyle	Berger & Plate
Tejon Ranch Co.	Waterman-Loomis Co.
Union Carbide	Keystone Seed Co.
Upjohn	Asgrow Seeds Associated Seeds

Graham Center Seed Directory

Market countries have simply outlawed many unpatented plants! Diversity hampers enforcement of the laws, so governments have tried to create genetic islands around the patented varieties. By declaring illegal the traditional varieties that are genetically similar to patented varieties, enforcement is simplified.

Incredibly, European governments are etablishing a "Common Catalog," which lists all varieties that are legal to grow. Each month varieties are deleted from the list. Sometimes over a hundred are scratched out in a single month. These deleted varieties cannot be raised or sold by seed companies. Even backyard gardeners cannot grow the illegal varieties if their gardens are located close to a commercial plot using a patented variety. With such restrictions – and a fine in England of up to £400 for violators – many varieties are quickly falling out of use.

Dr. Erna Bennett of the U.N.'s Food and Agriculture Organization in Rome estimates that *by 1991, fully three-quarters of all the vegetable varieties now grown in Europe will be extinct due to the attempt to enforce patenting laws.*

In England, the Director of the National Vegetable Research Centre has called the laws a "self-inflicted injury." Environmental organizations are asking Canadian groups to take and safeguard seeds of the newly outlawed varieties – ironically just as the Canadian government is attempting to establish its own patenting scheme. And OXFAM, the charity whose projects are generally located in the Third World, is considering the allocation of funds to help preserve Europe's endangered vegetable varieties. Truly, Europe is no longer safe for vegetables.

This could happen in the United States. In 1970 Congress passed a law (deceptively entitled, Plant Variety Protection Act) establishing a plant patenting system in the U.S. We have yet to experience the full effects of this legislation. Breeding programs undertaken after 1970 generally have not had time to produce patentable varieties. But bills (H.R. 999 and S. 23) are pending in Congress to amend our plant patenting laws to include six previously exempt vegetables: tomatoes, carrots, celery, peppers, cucumbers and okra. The passage of these amendments will pave the way for the U.S. to join the European-dominated international organization that promotes and coordinates plant patenting laws. Most of the nations belonging to this organization have found it necessary to outlaw many vegetable varieties in a desperate attempt to

enforce their plant patents. For the privilege of joining this select group, the initial membership fee will cost U.S. taxpayers nearly $100,000.

Seeds of Life

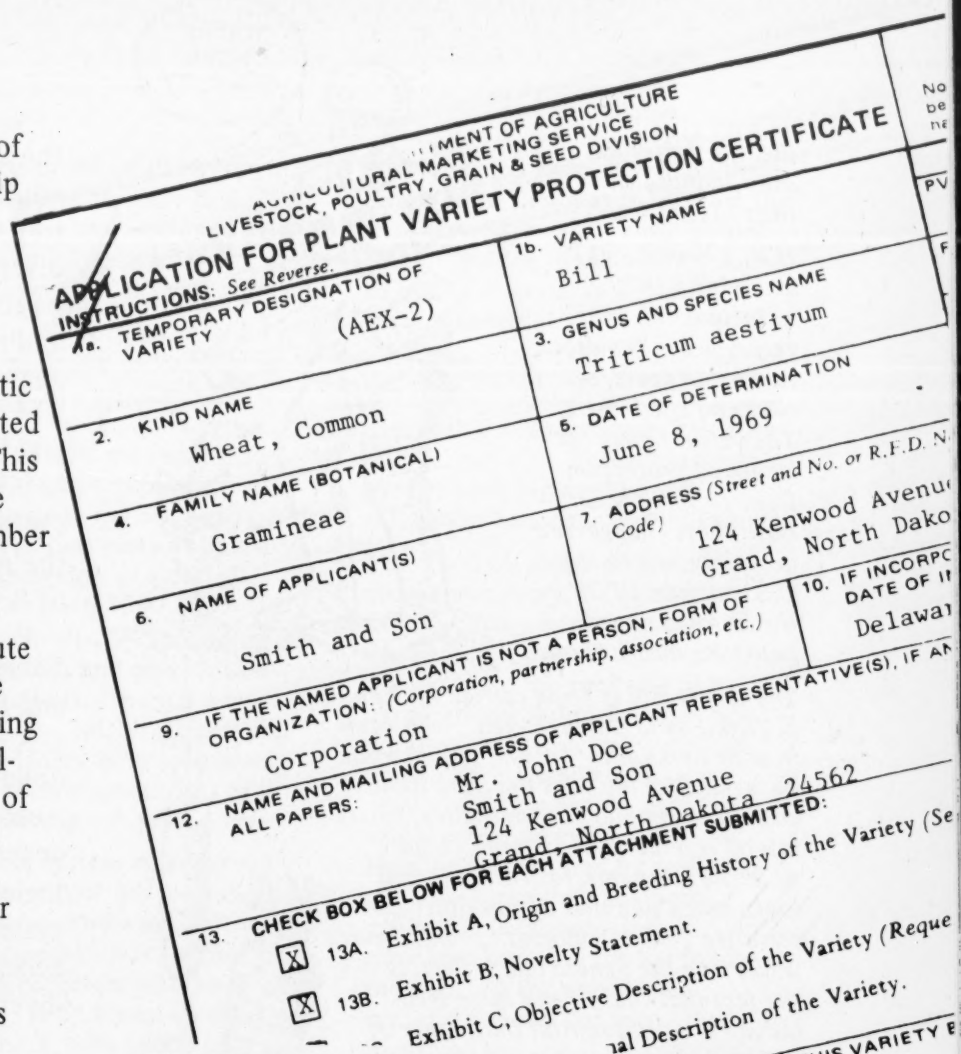
The future of agriculture depends on the genetic diversity in food crops that our ancestors created over the 10,000 year history of agriculture. This future is being threatened by laws that require genetic uniformity and a reduction in the number of varieties allowed to exist. Without genetic diversity, agriculture loses its primary defense against pests and diseases, thus creating absolute dependency on pesticides. (Conveniently, the same companies that profit from plant patenting stand by ready to supply the "needed" agricultural chemicals.) Agriculture also loses much of its ability to adapt to changing environmental conditions. Meanwhile, human cultures daily lose varieties they have come to value for their taste and nutritional qualities.

If diversity is to be preserved and agriculture's future insured, we must create a new ethic of conservation. We simply must make whatever effort it requires to stop plant patenting laws. We must take steps to establish plant preserves to protect endangered varieties of food crops and their wild relatives. And we must encourage the government to expand its miniscule budget for seed collection and storage programs.

As we engage in these public activities, we can begin to address the problem in our own backyards. We can grow and help preserve some of the old varieties. We can educate people about their importance.

But in the end, the future of agriculture can be insured only by healthy, vibrant small farms. The old varieties are threatened today, not because they taste bad or are nutritionally deficient, but because they do not suit the requirements of the factory farmers, the food processing industry and the big seed companies. The California plantation owner who grows tomatoes to be shipped all over the country cannot grow the old, tasty varieties. Their skins are not tough enough. Their insides are not hard. If the old varieties are to flourish, they must be, as they always have been, grown by small farmers and sold to a local market. This system of agriculture has provided sustenance to people for many centuries. It is an enduring agriculture that we tamper with only at great risk.

For thousands of years our ancestors toiled to develop the rich diversity that characterizes our agricultural system – the diversity a permanent agriculture requires. The challenge we face is how to preserve this life-giving legacy. ■



AGRICULTURAL [illegible]MENT OF AGRICULTURE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY: (AEX-2)

1b. VARIETY NAME: Bill

2. KIND NAME: Wheat, Common

3. GENUS AND SPECIES NAME: Triticum aestivum

4. FAMILY NAME (BOTANICAL): Gramineae

5. DATE OF DETERMINATION: June 8, 1969

6. NAME OF APPLICANT(S): Smith and Son

7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code): 124 Kenwood Avenue, Grand, North Dako

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.): Corporation

10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION: Delawa

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO WHOM ALL PAPERS: Mr. John Doe, Smith and Son, 124 Kenwood Avenue, Grand, North Dakota 24562

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety (Se

[X] 13B. Exhibit B, Novelty Statement.

[ ] Exhibit C, Objective Description of the Variety (Reque

al Description of the Variety.

FY THAT SEED OF THIS VARIETY E
es," answer 14B and 14C below.)

CIFY THAT THIS VARIETY BE
GENERATIONS?

14c.

O

E FOR PROTECTION OF THIS VARIE

NTED THIS VARIETY IN OTHER CC

R(S) AGREE TO THE PUBLICATION O
[X] YES [ ] NO

clare(s) that a viable sample of basi
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pplicant(s) is (are) the owner(s) of
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are) informed that false representa

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DATE)
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Editor's Note

More specific information on current legislation follows:

Plant "patenting" has been available in the U.S. since the Plant Patent Act of 1930. The Act is part of Title 35 of the U.S. Code, and is run by the Patent Office. The catch is that patents apply only to asexually produced plants (or to plants that reproduce both sexually – seeds – and asexually – rhizomes, grafting, etc.). You can see examples in any fruit tree catalogue; patented varieties will have their Plant Patent number right below their name.

Protection for sexually produced plants had to await the Plant Variety Protection Act of 1970. This is administered by an office in the U.S. Department of Agriculture, and instead of patents, they issue Certificates of Plant Variety Protection. It's interesting to note that the Agriculture Department opposed this act when it was first proposed during the Johnson administration, but then reversed itself and supported it in 1970. So the Act appears to be another contribution by former Agriculture Secretary Earl Butz to the betterment of corporate America, for it was the protection afforded by this Act which made seed companies become attractive acquisitions for multinational conglomerates, as the preceding chart shows.

When all of this was happening in 1970, Heinz and Campbells, the two big soup producers, argued successfully for the exclusion of six vegetables from the protection of the Act. They were afraid protection would result in higher-priced seeds. Apparently it hasn't, at least for

them, for they have since withdrawn their objections.

H.R. 999 and S. 23 amend the 1970 Act to include the six vegetables – tomatoes, carrots, peppers, celery, okra and cucumbers. They also change the length of protection from 17 to 18 years. Both these changes are necessary before the U.S. can join UPOV, the European seed patenting clearinghouse.

The House Bill is being carried by Rep. E. (Kiki) de la Garza, D-Tex., who came in with Lyndon in '64, and whose south Texas district includes the King Ranch and the lower Rio Grande Valley, where lots of vegetables are raised. Despite de la Garza's name, his voting record looks much like that of any other conservative Texas Democrat. Frank Church is carrying the Senate bill, reflecting the fact that Idaho has a huge seed industry. It is doubtful that either of these gentlemen expected opposition to, or had any understanding of the genetic implications of the bills when they were introduced. It was a simple case of taking care of business for some constituents back home.

The opposition surfaced at a House Agriculture sub-committee hearing last July. Since that time, no further hearings have been held, and the committee has not issued a report on the bill to the House. This may happen in the closing days of this session, or else early in the next session of Congress.

In a related story, the Supreme Court in October agreed to hear two cases that deal with the question of whether forms of life should be patentable in the first place. One case concerns a soil microorganism that Upjohn Co. has isolated and uses to manufacture an antibiotic. The other involves a new strain of bacteria that General Electric Co. genetic engineers created to break down crude oil, as in spills.

And finally, a hopeful note. Although most people are not aware of this entire issue, plenty of scientists are. They just don't happen to be organized or powerful, but that may be changing too, as the following announcement by David Kafton explains. –*Richard Nilsen*

AAAS Symposium on a National Program for the Conservation of Biological Diversity

Inquiring Systems, Inc. (ISI), a non-profit organization, will be holding a symposium (Animal, Plant, and Microbial Gene Resource Conservation: Does the U.S. Need a National Program?) that will address the need for a comprehensive and effective national program for conserving biological diversity. The purpose of such a program would be to ensure that all diversity (animals, plants, and microorganisms) essential for survival is safeguarded, *in perpetuity*, and in the most efficient and appropriate manner possible. The symposium will be held on January 5, 1980 (9 a.m., Elizabethan B Room, St. Francis Hotel, San Francisco, California) as part of the annual convention of the American Association for the Advancement of Science (AAAS).

Each year the genetic diversity of animals, plants, and microorganisms are utilized in providing the U.S. with its basic needs including billions of dollars worth of new and familiar products. The steady high production of these bioresources is dependent on the availability of appropriate biological diversity, found mostly in natural ecosystems. In fact, the survival of existing natural ecosystems is also dependent, in large part, on the diversity within them.

Unfortunately, evidence is accumulating that the biological diversity of natural ecosystems is being rapidly depleted and that other sources of diversity (such as collections and natural reserves) are inadequate. At the same time, there is growing concern in the U.S. and elsewhere that there is insufficient support for remedying these serious problems.

In response to this vital situation, Inquiring Systems recently initiated a Gene Resource Conservation Program aimed at acquiring the support needed to develop and implement a comprehensive national program. A collaborative approach is being utilized that involves all those individuals and organizations concerned with biological diversity (for example, government, industrial, conservation, labor, academic, and consumer organizations). A National Gene Resource Conservation Program Coordinating Committee has been formed that guides ISI's Program which includes activities such as the AAAS Symposium as well as a National Conference on Animal, Plant, and Microbial Gene Resource Conservation that will be held in fall 1981. The main objectives of the Conference are to make a comprehensive, in-depth analysis of the current status of gene resources, to develop an effective national program, and to acquire the support for implementing it.

If readers have questions, want additional information, or are interested in participating, contact Dr. David Kafton, Program Coordinator, 2532 Durant Avenue, Suite 250, Berkeley, California 94704; telephone (415) 843-3135.

–Dr. David Kafton

A Letter from England

Dear CoEvolution,

The EEC (European Economic Community) Common Catalogue, (as the Seeds Regulations are commonly known) came into law when the UK's 1964 Plant Varieties and Seeds Act was amended in 1973 by the European Communities Act. Administration doesn't tolerate diversity, but inconveniently many plants are not uniform; the list is a bureaucratic triumph in that it simply excludes varieties of too variable phenotype and varieties that are too similar to those listed.

Nowadays seedsmen and breeders tend to be one company, or parts of a big corporation; naturally they are delighted at this elimination of competition. The regulations are enforced – there is a fine of up to £400 for contravening them. As far as amateurs are concerned – home gardeners and backyard breeders – once a variety is off the list, the only way to obtain it is from the Henry Doubleday Research Association vegetable seed library (if they have it), who circumvent the regulations by "lending" seeds to members only for experimental purposes. There are very few small seed companies left; a combination of legislation and commercial pressures has seen to that. The rash of takeovers and mergers started in 1964 (when plant breeder's rights were first introduced) and has continued ever since – the small companies are either swallowed up or fade away.

It would now be very difficult for a small seed company to start up, as the fees would be prohibitive. To keep a variety on the list incurs annual fees of £70 per registration and £300 for inspection. If an unlisted variety is to get on the list, it must undergo two years of Ministry trials at Cambridge, at a cost, I believe, of at least £1000. Virtually all breeding in the UK is done by the big corporations and government breeding stations. There is a trade association, the British Association of Plant Breeders, who presumably have gentlemen's agreements of their own for exchange of germ plasm.

The licensing system most certainly acts to keep all but the biggest out of the market. There are one or two small breeders left, but I gather they operate via contracts with seed companies. A backyard amateur would, I think, have access only to what is available on the market. The regulations have caused the loss forever of many varieties, for as yet the HDRA seed library is the only collection of rare vegetables. A gene bank is proposed (funded by a charity if you please), but not all the money has been raised and there is now some doubt as to whether the Ministry of Agriculture will keep it going. Besides, it will only be able to supply material to approved plant breeders.

Greece, Spain and Portugal are all to join the EEC, and all three are countries with small seedsmen raising traditional varieties. Those that haven't already been replaced by hybrids will vanish under the regulations.

The effect on aware gardeners is to make them angry, though I might add that many home gardeners are unaware that the brands they buy in the shops are the products of big corporations; often, the same corporation. Basically, new varieties available from seedsmen are in many cases unsuitable for the home grower, whose requirements are different. Hybrids are favoured by seed companies because they are more profitable (and more uniform), and their seed is useless for the following year. At the same time, gardeners choice has been greatly restricted because if a traditional variety is not listed, you can't buy it.

Yours sincerely,

Judy Clark
Hastings, East Sussex
England

Graham Center Seed Directory

This booklet is a collection of access to small seed companies that offer many of the older, forgotten and traditional seed varieties. It also includes a brief but thorough discussion of the seed patenting issue.

The Graham Center is a non-profit organization dedicated to the preservation and promotion of the small, family farm. The **Seed Directory** *is a dollar well spent.*

–Shane Smith

Graham Center Seed Directory
Cary Fowler
1979; 16 pp.

$1 postpaid from:

Frank Porter Graham Center
Rt. 3, Box 95
Wadesboro, NC 28170

The Sinking Ark

In the Bible, God tells man to take dominion over the species of the earth. Maybe that's too big a task so we're cutting the field down to a manageable size. **The Sinking Ark** *tells of the wondrous things we're beginning to learn from our fellow species. Lichens can monitor heavy metals pollution and black bear hormones revitalize human kidneys. What's needed to stop the assault before we wipe out nature's library of knowledge, the gene pool?*

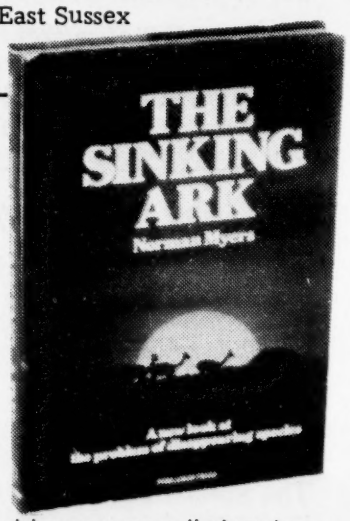
Myers cites some political/economic measures for multinational corporations and governments to try, but his real hope is that the third world countries will develop and urbanize rapidly and leave the tropical rain forests alone.

–Rosemary Menninger

The Sinking Ark
Norman Myers
1979; 307 pp.

$8.95 postpaid from:

Pergamon Press
Maxwell House
Fairview Park
Elmsford, NY 10523
or Whole Earth



The elimination of species would represent a distinct loss to society. Already tropical-forest species have made a major contribution to human welfare. They have supplied the origins of many staple foods, rice, millet, cassava, pigeon pea, mung bean, yam, taro, banana, pineapple and sugarcane, to name but the better known. A huge cornucopia of further foods waits to be investigated. In Indonesia alone, around 4000 plant species are thought to have proved useful to native peoples as food of one sort or another, yet less than one-tenth have come into wide use. At least 1650 plants of tropical forests offer highly nutritious leaves. In New Guinea, 251 tree species bear edible fruit, though only 43 have been brought into cultivation; a hitherto uncultivated fruit of Southeast Asia, the mangosteen, has been described as "perhaps the world's best tasting fruit." A vine from tropical forests of southern China, known as the Chinese gooseberry, bears fruit with juice 15 - 18 times richer in vitamin C than orange juice. Nor are all these foods limited to local consumption; high protein beans from Nigeria have found favor with Wisconsin farmers.

Amaranth

Amaranth was like buffalo to the Aztecs — a food, a flower, a part of sacrificial ritual. We can grow it again, and as with buffalo, the return of amaranth would be a symbol of a renewed kinship with the earth. The vision of a diversified agriculture including a myriad of crops is the subject of this book, with the ancient amaranth its leading character.

—Rosemary Menninger

Amaranth
(From the Past for the Future)
John N. Cole
1979; 300 pp.

$8.95 postpaid from:

Rodale Press
33 E. Minor Street
Emmaus, PA 18049
or Whole Earth

Wherever you look for information about the amaranth's times past, you find that this modest plant which evolved from one of the planet's most ubiquitous weeds is endowed with more than merely nutritive assets. . . .

Its flowers are still placed on the altars of cathedrals in Spain. English colonists sailing for America carried amulets of the seed with them; later, Victorian Americans would claim that the plant attracted lightning. Mexicans of ancient times made idols from amaranth seed for their religious ceremonies; after those ancient deities had been replaced, they molded rosary beads from amaranth dough. Hopi Indians in North America have a centuries-old tradition of using amaranth dough as a traditional food for ritual celebrations. Hondurans grow the plant as a magic medicine, Inca cultures used it in their complex religious pageants. The Chinese call it millet from heaven, and in India it is known as the immortal grain. . . .

Are you aware of any other foodstuff that is known by its metaphysical as well as its physical dimensions around the world, across time and through cultures as diverse as the Hopi Indian and the Szechwan Chinese?

The Solar Food Dryer Book

This little book will get you started with sun-dried food processing. The field tried methods are shown in a straightforward fashion along with a simple home-built drying frame. A good place to start. (I recommend the sun-dried tomato chips.)

—J. Baldwin

The Solar Food Dryer Book
Stella Andrassy
1978; 127 pp.

$3.95 postpaid from:

Morgan & Morgan
145 Palisade Street
Dobbs Ferry, NY 10522
or Whole Earth

Solar Greenhouse Digest

Any idea whose time has come needs a forum where the latest information can be shared and discussed, and here it is. Early issues are chatty, knowledgeable, useful, and getting better. Bill Yanda is involved, along with many others who have been doing the solar greenhouse bit for some time now. *—J. Baldwin*

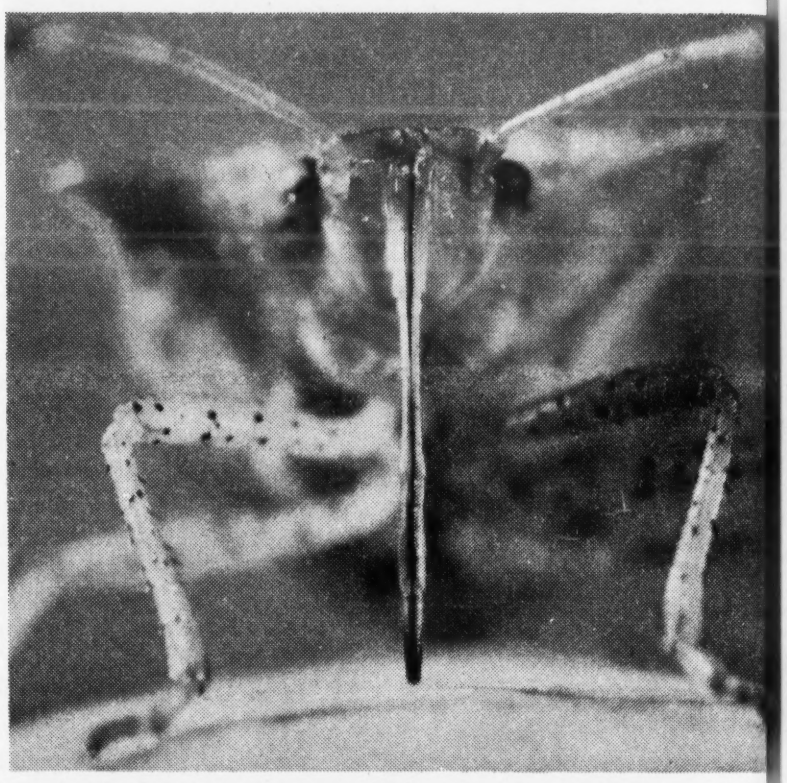
[Suggested by Chris Winne]

Solar Greenhouse Digest

$10 /yr (6 issues)

$18 /2 years (Canada add $3/yr, Foreign add $8/yr.)

from:
Solar Greenhouse Digest
P.O. Box 2626
Flagstaff, AZ 86003



Adult stinkbug inserting beak into a pear. 8.4 x life-size.

Pear Pest Management

This book is for commercial orchardists, not back-yard fruit growers; but it deserves mention because it is the first time that an integrated pest management program has been so completely developed for one crop. Researchers were closer to the answers with pears, but a similar book is in the works for grapes; and pest management books for alfalfa, tomatoes, walnuts, almonds, cotton and citrus are being considered.

For growers, this book is a new tool, telling them how to monitor their orchards for pests, and allowing a much greater sophistication about when and what and how much to spray than has been available before. Synthetic chemical pesticides and herbicides are still recommended, and it seems clear that as long as the marketing system demands "perfect" fruits and vegetables, consumers will continue to devour perfection and the poisons that make it possible.

The 23 pages devoted to the codling moth — the major pear pest in California — will also be of interest to apple growers. Quite complicated monitoring is very clearly explained, right down to counting degree-days between hatches. The enlarged color photos of pests, what their damage looks like, and beneficial insects are outstanding.

—Richard Nilsen

Pear Pest Management
Division of Agricultural Sciences
University of California
1978; 234 pp.

$20 postpaid from:

Agricultural Sciences
Publications
Univ. of California
1422 Harbour Way South
Richmond, CA 94804

(Include publication no. — 4086 — when ordering. Checks payable to: The Regents of the Univ. of California. CA residents incl. sales tax.)

Codling moth control is the key to almost all other pest programs in the pear orchard. Consequently, the main thrust of pear pest research today is toward reducing the use of disruptive codling moth control chemicals. This is being done by improved timing of control measures, by developing more effective application methods, and by finding selective means for controlling this key pest.

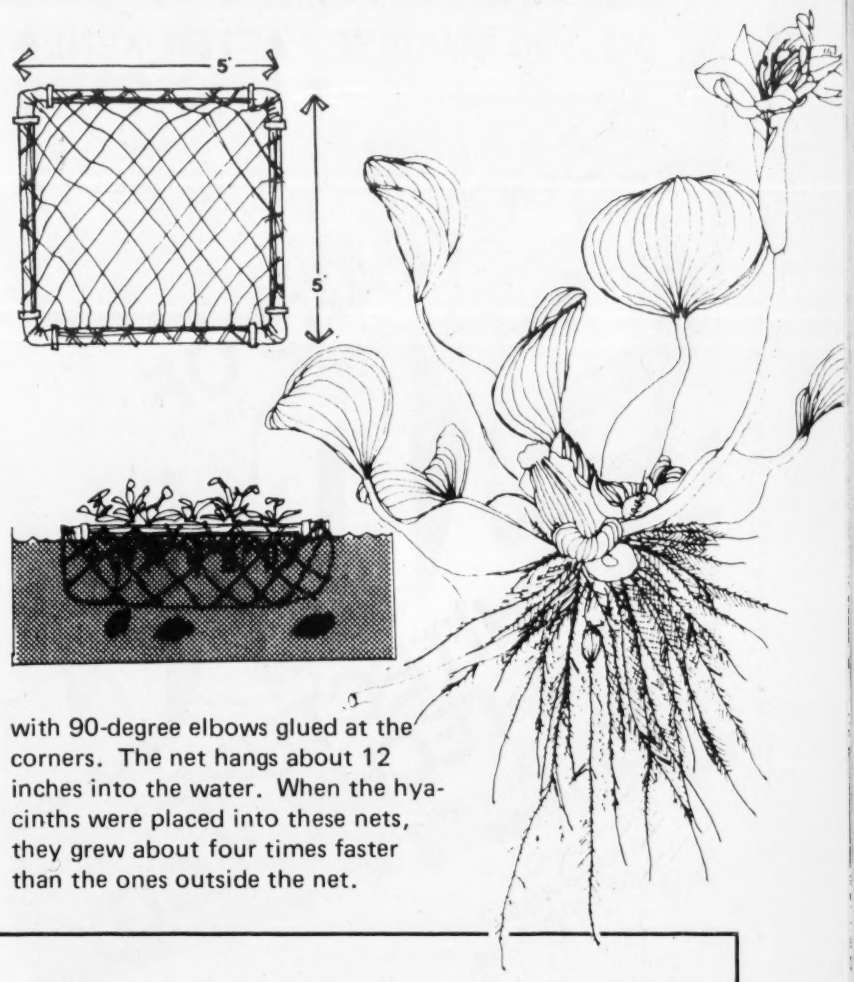
Fish Farming in Your Solar Greenhouse

This is a fascinating book that will provide those aspiring to self-sufficiency with a solid start in integrating aquaculture into their greenhouse systems. Applying the principles of solar energy and aquaculture to produce both fish and vegetables in abundance, the authors provide a readable analysis of relevant fish biology and environmental requirements. This book is an excellent 'how to' guide for beginning a home-size aquaculture system.

—Richard Wilen

Fish Farming in Your Solar Greenhouse
William Head, Jon Splane
1979; 43 pp.

$5 postpaid from:
Amity Foundation
P.O. Box 7066
Eugene, OR 97401



When the plants were first introduced, the *Tilapia zillii* would leap out of the water and nip at the leaves. They would shred both the leaves and roots of the plant down to stubs in a very short time. Eventually, they stopped eating the leaves, but would still crop down the fine root hairs. This interfered with the nutrient uptake of the plant and reduced its growth. We wanted to encourage growth, not only for food, but also for ammonia removal.

Finally, we built floating nets in order to protect the hyacinth from the fish. A net with a ¼-inch mesh is tied to a 5 x 5 foot float made of 1½-inch ABS plastic pipe with 90-degree elbows glued at the corners. The net hangs about 12 inches into the water. When the hyacinths were placed into these nets, they grew about four times faster than the ones outside the net.

Why Not WWOOF?

For the organic gardener or farmer, the greatest day-to-day problem which he is likely to encounter is often lack of time. Doing the immediate task of rabbit fencing leaves the brassicas to become smothered in weeds, and a day spent at the crucial job of weeding leaves your nice clean cabbages to be devoured by the hungry hares. The solution often becomes to throw up one's arms and hope that the intruders won't be able to find the crop if it's buried in weeds. On the other hand, for the city-dweller contemplating a temporary or permanent stay on a farm the problem is often a lack of opportunity to either gain experience before rushing headlong into homesteading, or simply breathe some unpolluted air and get a little manure on the boots. But both of these problems have been alleviated to some extent in Great Britain, through the phenomenon known as "WWOOFing."

WWOOF, or Working Weekends on Organic Farms, was introduced to me by one of my lecturers during a year-long stay at the University of North Wales. The organization, founded by a London woman in 1971, seeks to reconcile the two problems above by scheduling weekend stints on organic farms in which members volunteer their labor in exchange for room and board. Members and farmers pay approximately $6.00 annual membership fees, and in return receive a bi-monthly newsletter with short descriptions of some 140 organic establishments all over Britain, varying from an elderly lady's back garden to large-scale mechanized cereal farms, with everything in between. A calendar lists what farms would like what number of people on which weekends; the members then jot the farms and weekends that most suit them on an application form and send it off to an organizer in the one of ten regions of England, Scotland, Wales, and Ireland in which his preferred farm is located. This organizer contacts the farmer and confirms the arrangement with both parties.

Last autumn I dutifully filled out my first application and ended up patching mouseholes and making butter at a 15-acre commune in Shropshire. My second weekend in Yorkshire was cancelled due to snow, but my next encounter with a four-and-a-half acre smallholding in Wales culminated in the decision to work there for five quite wonderful weeks in the summer. Of course not all weekends go smoothly for everyone, and only about a half of the places advertised in the newsletter by farms are filled, but overall the system seems to work well for all concerned. My hosts received free labor which they said allowed them to "get on top of things" for the first time; and I obtained friends, experience and contacts in the British organic movement, all free, and all for the first time.

And so, on my return to the good ol' U.S.A. this August, my first thought was "Why not here?" Clearly many people could benefit from such an organization, although changes to accomodate the U.S. situation are necessary. For instance, the sheer size of our country and the lack of public transport as compared with Britain would make organization on a regional scale, and not merely limited to short weekends, more viable. Areas with organic growers may be widely separated from urban centers, and a number of other problems would inevitably arise.

Nonetheless, I am undertaking the task of starting such an organization here in the Midwest, involving primarily the states of Ohio, Indiana, Michigan, Illinois, Wisconsin, Missouri, and Iowa. I ask that any interested party in this area would send a self-addressed, stamped envelope to me, Mark Boudreau, at 1210 W. Main St., Urbana, Illinois, 61801. Please indicate whether you are a "grower" or "worker" on the envelope. I will send further information, and if and when sufficient replies are received, I will assemble a trial newsletter and we'll see how things work. If we're lucky the example set in Britain could help our growers to gain time, help our urbanites to gain experience, and help us all to help ourselves on the road to a stable future.

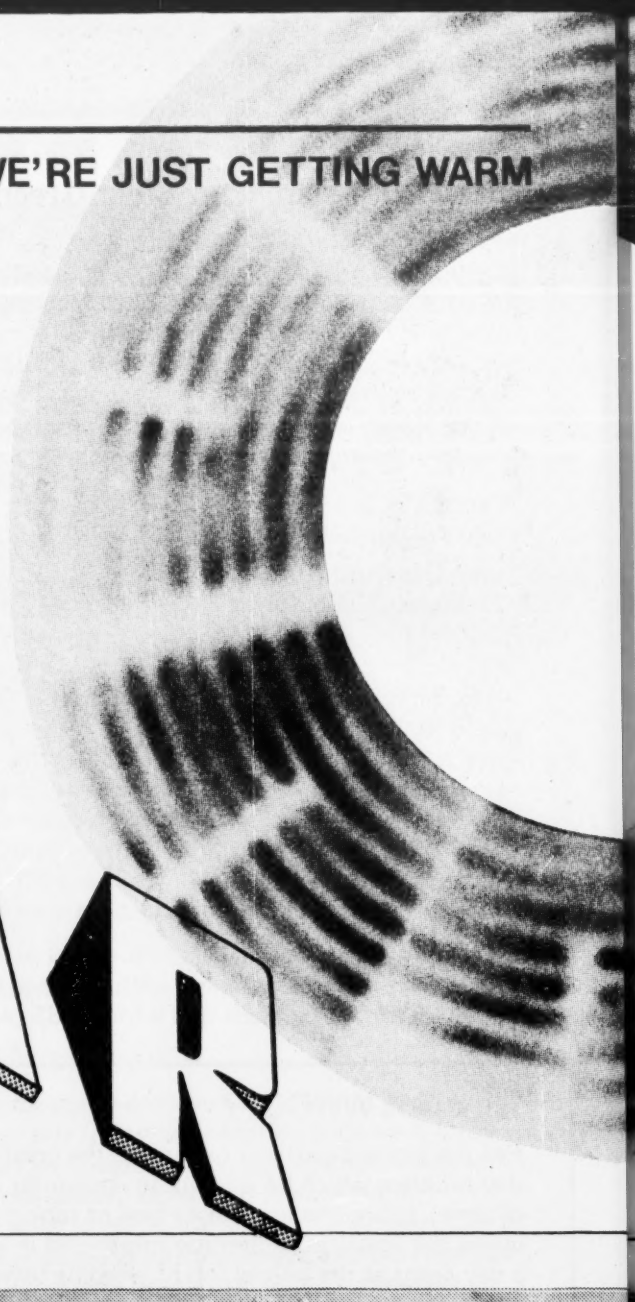
—Mark Boudreau

912,500 SUNRISES AFTER XENEPHON AND WE'RE JUST GETTING WARM

2,500 YEARS OF SOLAR ARCHITECTURE AND TECHNOLOGY

By Ken Butti and John Perlin

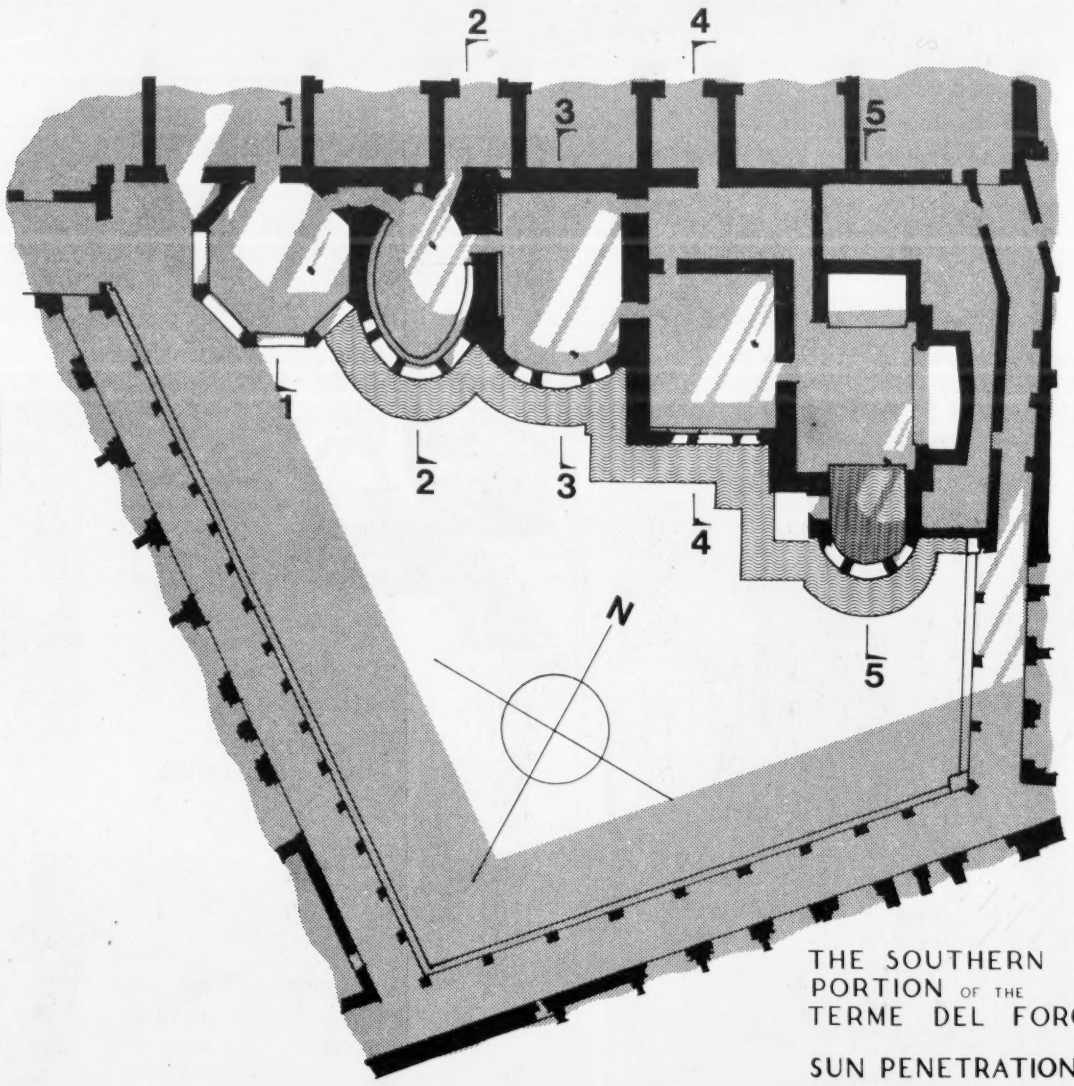
Copyright © by Ken Butti and John Perlin, 1980



Twenty-five hundred years ago the Greeks used solar energy to help heat their homes. Since then, many important developments have occurred in solar architecture and technology. This photo-essay spotlights some of these important historical solar events. What appears on the next pages are excerpts from **A Golden Thread: Twenty-five Hundred Years of Solar Architecture and Technology** *to be published in March, 1980 by Cheshire Books/Van Nostrand Reinhold Co. (It may be ordered by January, 1980, from Cheshire Books, 514 Bryant Street, Palo Alto, CA 94301.) Portions of the book have appeared previously in* **CoEvolution** *— "Solar Water Heaters in Florida 1923-1978," in No. 17 (Spring, 1978), and "Solar Water Heaters in California 1891-1930," in No. 15 (Fall, 1977).*

As a result of their scholarship the authors have accumulated a considerable archive of historic solar graphic documents. If you wish to use some of their images, contact John Perlin, 32 South Patterson Ave., Santa Barbara, CA 93111. *–SB*

RECONSTRUCTION BY A. ZIPPELIUS WATERCOLOR BY E. WOLFSFELD



EDWIN D. THATCHER/DAVID WILLS

THE SOUTHERN PORTION OF THE TERME DEL FORO

SUN PENETRATION DECEMBER 21-12:00

EARLY SOLAR ARCHITECTURE

350 B.C. — Priene, Asia Minor (Greek Settlement)

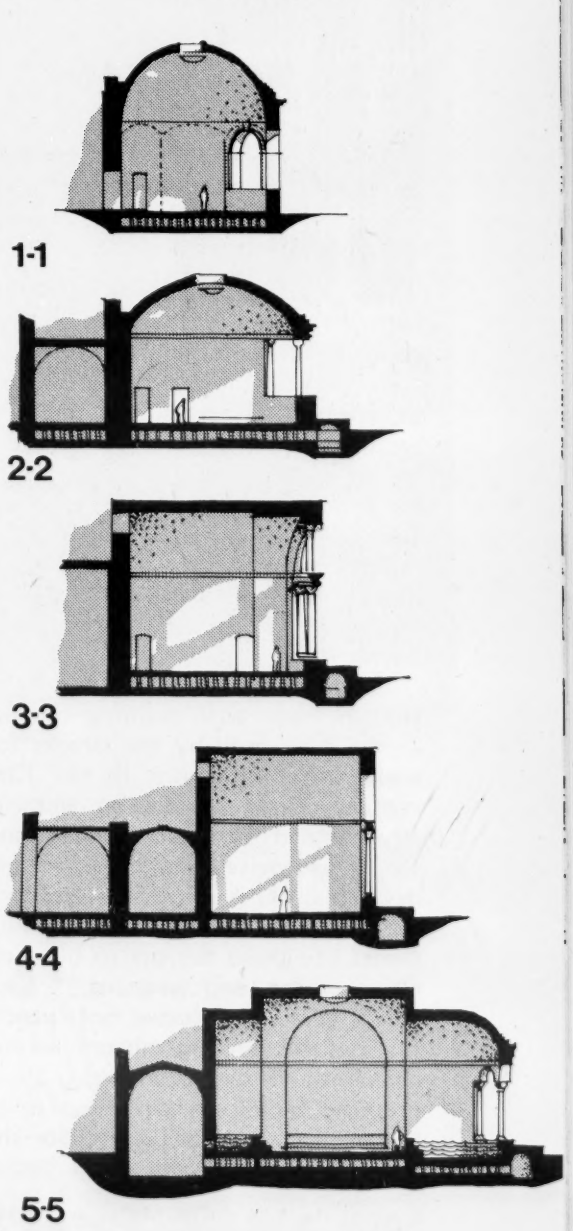
The ancient Greeks were the first to write about using solar energy. Xenophon reported in the 4th Century B.C. that Socrates advocated facing homes south to take full advantage of the winter sun. "In houses with a southern exposure," Socrates explained, "The sun's rays penetrate the home in winter . . . while in summer the path of the sun is right over our heads and above the roof, so there is shade."* This energy saving strategy provided homes with over two-thirds of their daytime heating requirement in winter. Beginning in the 5th century B.C. the Greeks also planned many of their cities so that every home could face south. The main streets of Priene, a typical solar city of antiquity, ran east/west and north/south, allowing all residences access to the winter sun.

*Xenophon, **Memorabilia**, VIII. viii. 8f.

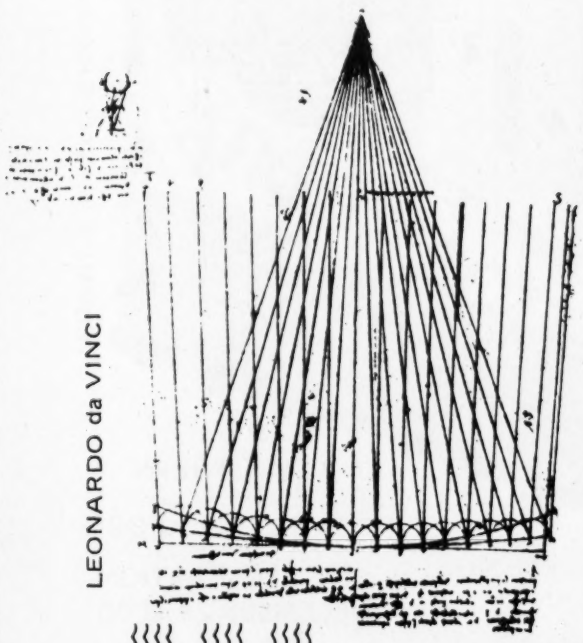
120 A.D. — Ostia, Italy

In many technical endeavors the Romans adopted, then improved upon, Greek innovations. Solar energy applications were no exception. The Romans oriented villas, public baths, and greenhouses to the south. They also developed transparent window coverings which more effectively retained solar heat than the mere window openings used by the Greeks. The Romans discovered a unique property of transparent materials — they admit sunlight but retain sunheat. Glazed bathing chambers, such as those at the Terme del Foro at Ostia (above) made efficient use of the sun's heat. Seneca, the noted Roman philosopher, remarked that large glass windows in such baths trapped so much solar heat by late afternoon that bathers inside would "broil."*

*Seneca, **Epistulae Morales**, LXXXVI, II. Diagram and research by Edwin D. Thatcher



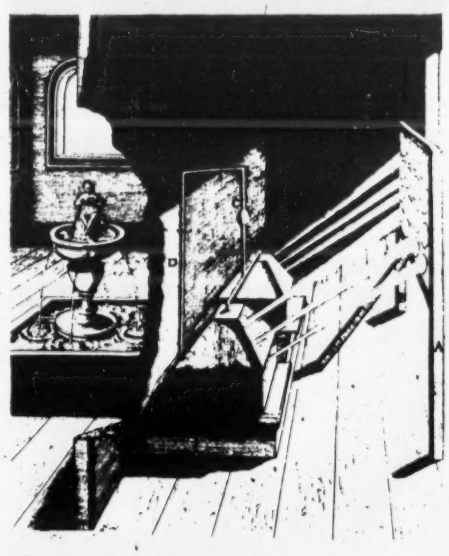
SOLAR POWER



1515 Florence Italy

While architects, planners, and gardeners used the sun's rays for heating, others attempted to focus sunlight into more powerful beams of energy. To accomplish this feat required some type of curved reflector or a lens. The 3rd century B.C. mathematician Dositheius was the first to build a parabolic mirror. It focused sunlight to a point, melting metals and burning combustibles. The power of curved mirrors fascinated the military. Legend has it that Archimedes destroyed the entire Roman fleet with burning mirrors — the term used by the Greeks for such curved reflectors. In the 13th century, Roger Bacon, an empirically minded Franciscan monk and scholar, suggested that Christiandom develop burning mirrors as weapons for the Crusades lest "the Anti-Christ use these mirrors to burn up cities, camps, and weapons."* Leonardo da Vinci suggested more peaceful uses for burning mirrors. In the above page of his notebook da Vinci proposed building a mirror four miles long which would heat water for the dye industry or swimming pools.

Bacon, R., **The Opus Majus of Roger Bacon**, translated by Burke, Robert B., Philadelphia; University of Pennsylvania Press, 1928, p. 135.



1659 Paris, France

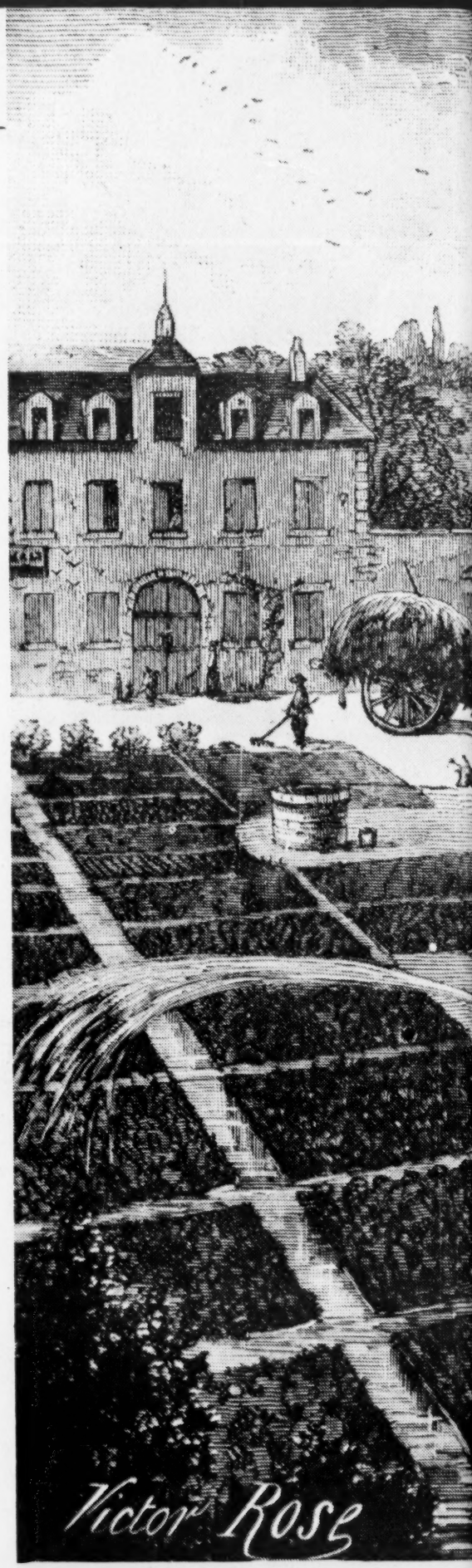
Renaissance scientists also used lenses "to increase the force of the sun," according to 17th century French inventor Solomon de Caux. De Caux designed many solar-powered pumps using lenses or "burning glasses," as they were called. In this illustration of his solar fountain, sunlight from an array of lenses is focused onto two blackened copper tanks. Heated air inside the tanks expands, forcing water in the adjacent fountain to "spring forth with great aboundance."* The idea of using solar energy to drive toys such as de Caux's fountain gave rise to a number of curious machines.

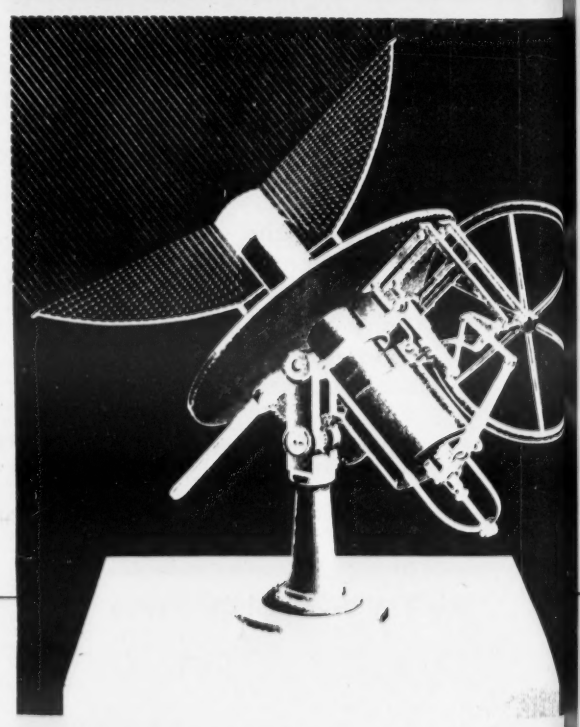
*De Caux, Isaac, **New and Rare Inventions of Water Works**, 1659, p. 24.

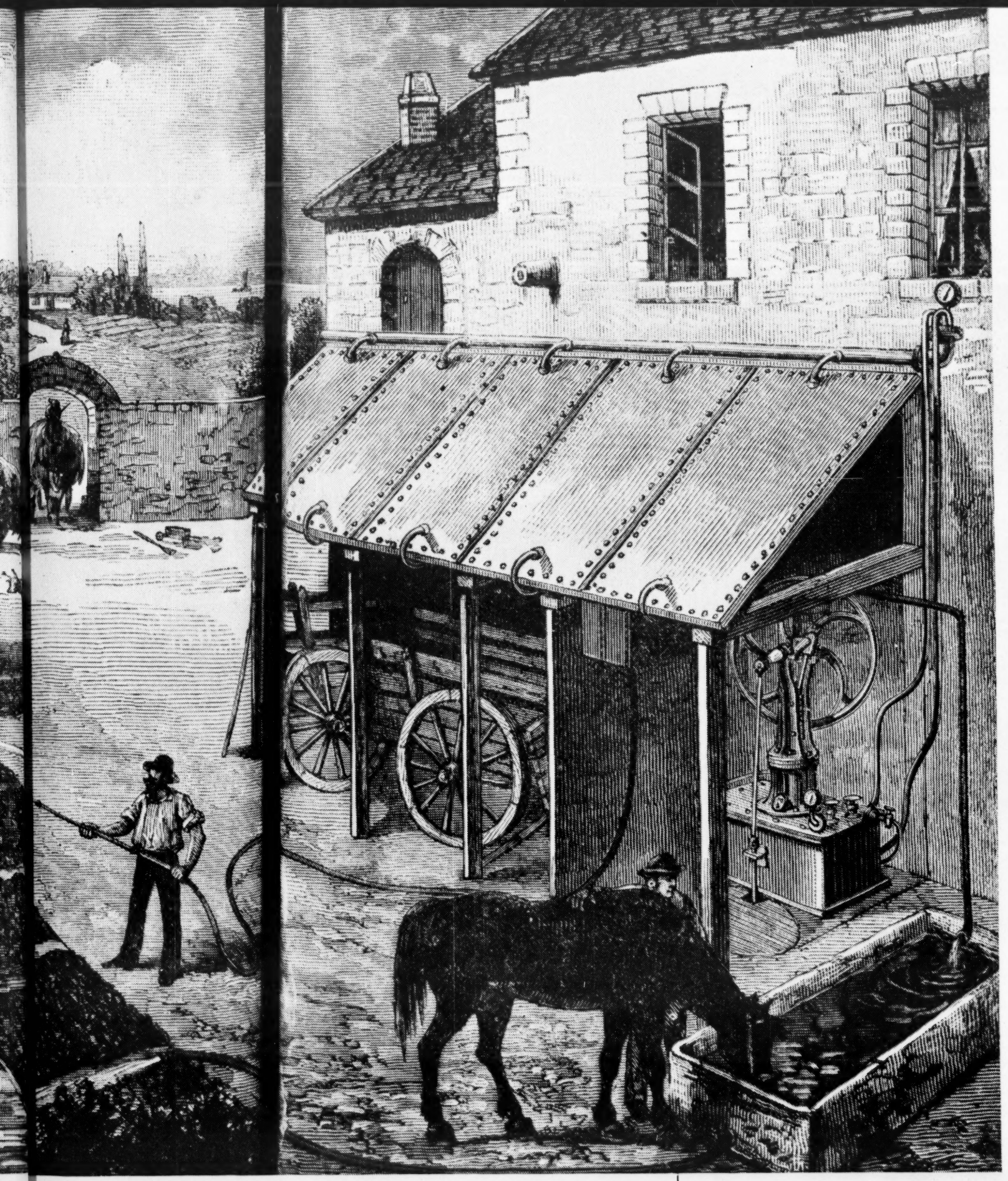
1872 New York New York

Concerned that someday the developed world would run out of fossil fuels, the famed naval engineer, Captain John Ericsson, devoted much of his later life to the development of solar energy. Ericsson built the world's first solar hot air engine, as seen in this illustration. A dish-shaped metal reflector focused sunlight onto the cylinder of a specially designed motor, causing air inside the cylinder to expand and power the engine. "Operating by the direct application of the sun's rays," Ericsson proudly observed, his invention marked "an era in the world's mechanical history."*

*Ericsson quoted in Church, W., **The Life of John Ericsson**, volume II, New York: Scribners, 1890, p. 266.



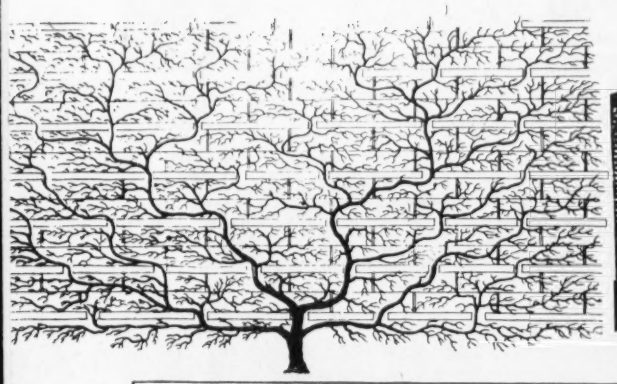


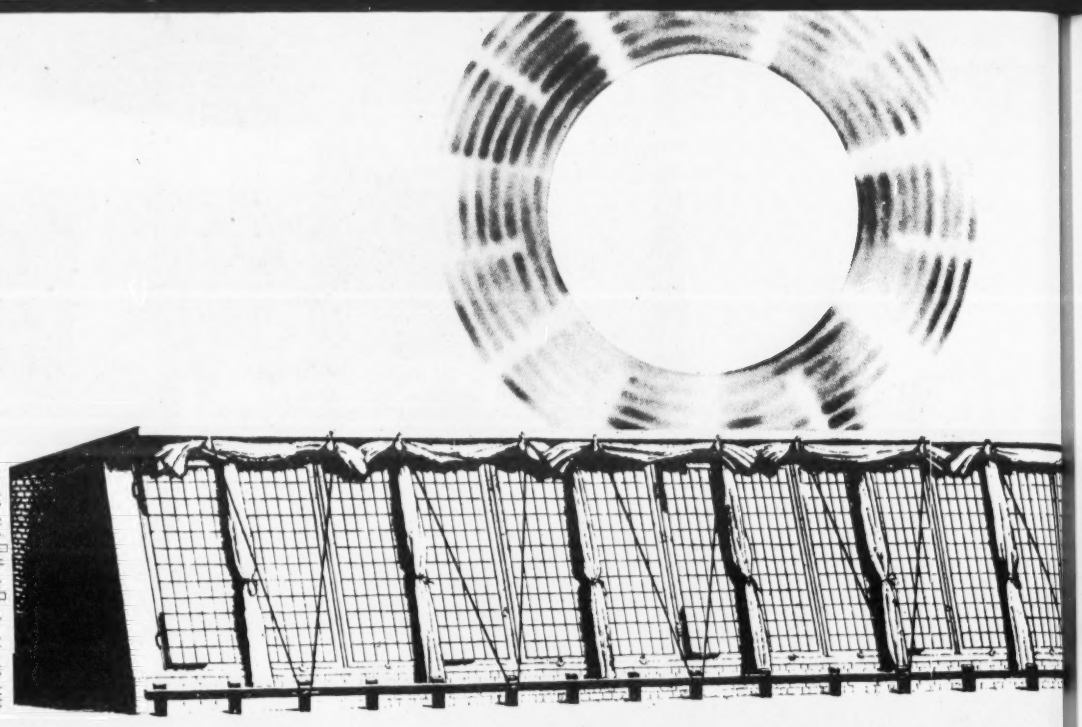


1885 Paris, France

Not all sun motors constructed during the 19th century used concentrated solar energy. French refrigeration engineer Charles Tellier built a low temperature solar energy collector to power his sun pump. He saw solar energy as the key to the development of France's newly acquired African colonies. Tellier's solar pump was powered by the vapor of a low-boiling-point fluid. This fluid circulated through hollow channels in metal solar collectors which Tellier designed. The boiling fluid forced water out of a chamber into — in this case — a hose for irrigation.

SOLAR GREENHOUSES





17th Century England

During the 16th and 17th centuries, northern Europeans became interested in effectively using solar heat to help propagate exotic plants brought back from the tropics. One method, widely practised in England, was the fruit wall. Gardeners attached the branches of a vine or tree to a wall (see illustration) facing south. The wall was usually made of brick. They spread the vine or tree flat against the wall so that every branch received direct sunlight. Sunlight also struck the walls and was absorbed by the brick. The brick would radiate solar heat to the branches, helping to extend the growing season.

1699 England

Fruit walls had their shortcomings. Because they stood perpendicular to the ground, they did not receive optimum amounts of sunshine. To remedy this situation, Nicolas Fatio de Dullier devised the sloping fruit wall. Angled at 63° to the horizon, winter sunlight hit Dullier's improved fruit wall more directly than previous ones. Dullier boasted that his fruit wall "received more sun shine and heat than ordinary fruit walls," producing "grapes and figs and other fruits equal in goodness here (England) to those of some much hotter climates."*

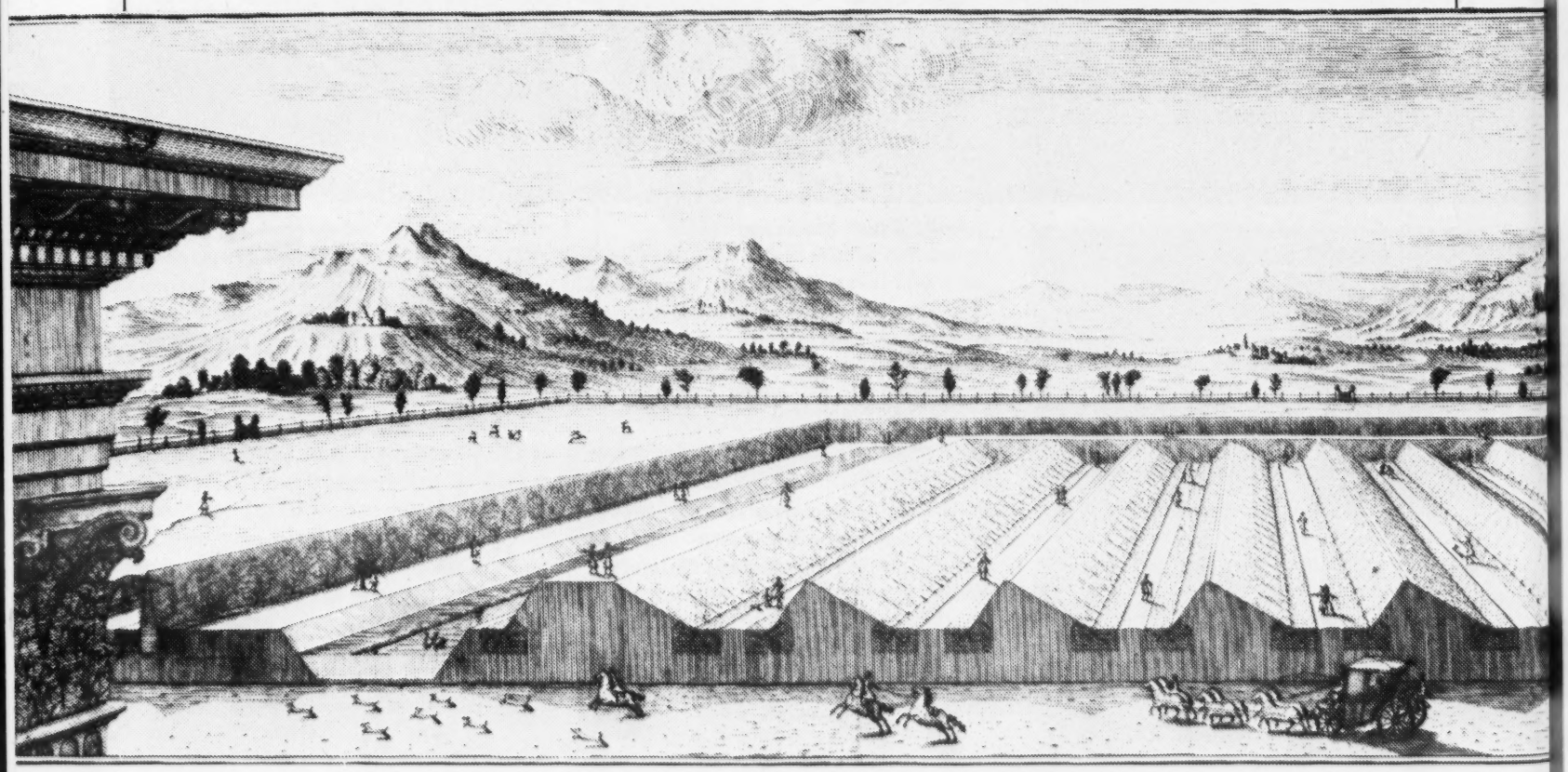
*Fatio de Dullier, Nicholas, **Fruit Walls Improved,** R. Everingham, 1699, p. 23.

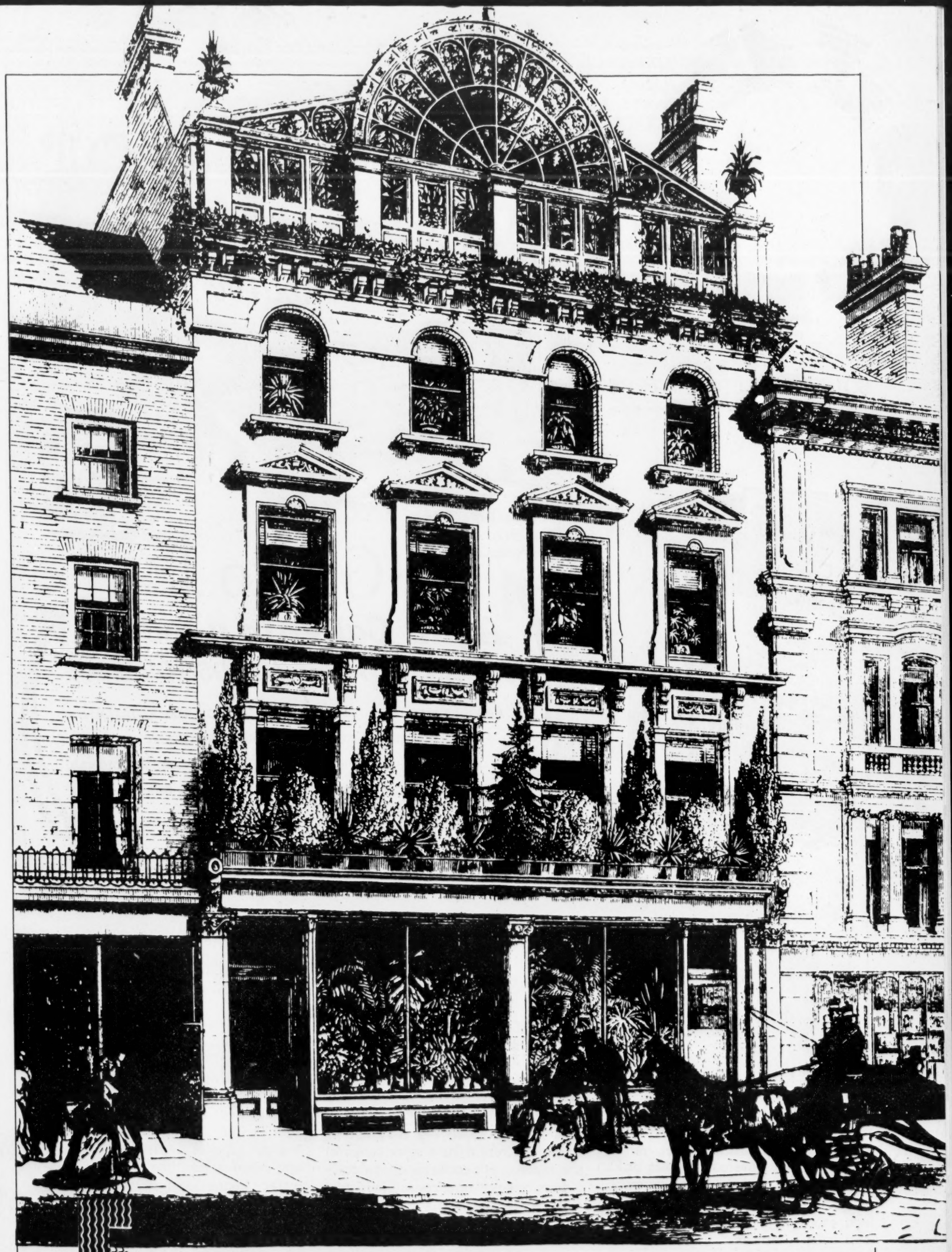
1737 Netherlands

Since fruit walls lost some heat because they were exposed to the elements, many gardeners relied on glazed cold frames and greenhouses. They usually built greenhouses long and narrow with glass only along the south facade. Horticulturists also experimented with sloping the glass at different angles to the horizon in order to increase solar heat collection during winter. Dutch gardener Pieter Van de Voort in 1737 developed canvas insulating covers for his greenhouse, to "retain the heat within, and lessen the consumption of fuel."*

*Loudon, J.C., **Remarks on the Construction of Hot Houses,** London, 1817, p. 3.

S. GRIBELIN

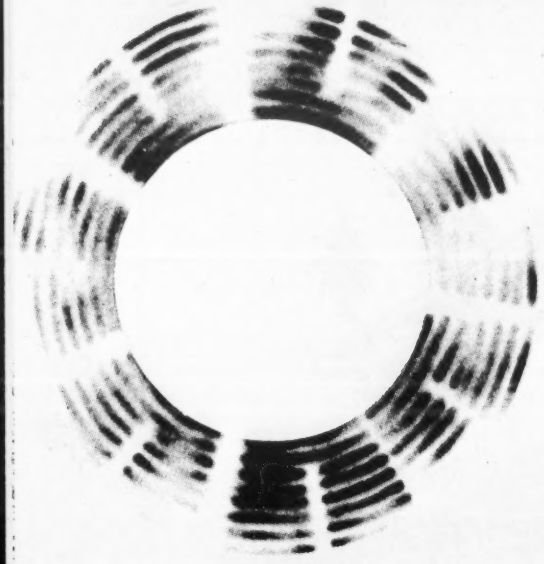




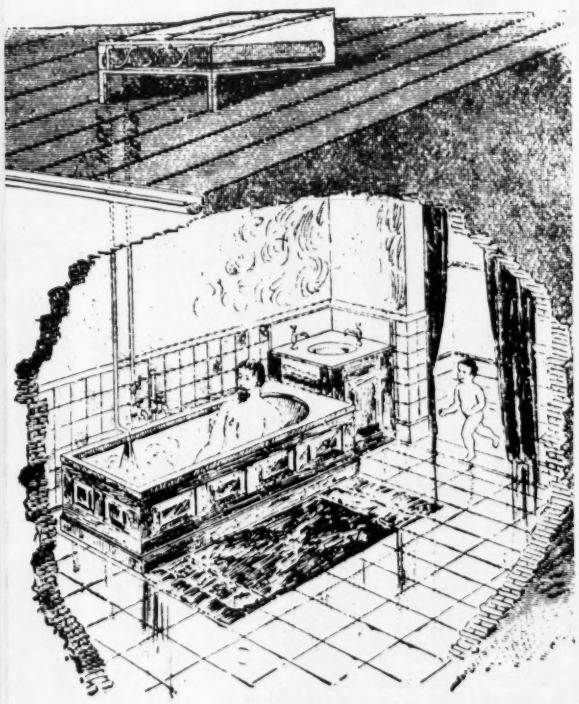
1875 — London, England

Further refinements in greenhouse construction led to the development of conservatories — structures where plants were grown for pleasure and aesthetics rather than for food or profit. They became the favored winter retreat of wealthy Europeans. Many times they were attached to the home, as in this typical English roof-top conservatory. Such structures usually fronted south so they could gain "the heat from the sun's rays in winter and spring."* Solar oriented conservatories also contributed to the winter heating of homes.

*Loudon, J.C., **Loudon's Encyclopedia of Cottage, Farm, and Villa Architecture,** London, 1846, p. 974.



SOLAR WATER HEATERS



1891
Baltimore
Maryland

Baltimore inventor and manufacturer, Clarence M. Kemp, patented in 1891 the first commercial solar water heater. Kemp placed four blackened, cylindrical water tanks within a glass-covered wooden box. "This heater absorbs an extremely large amount of heat from the sun and stores it for bathing, domestic and other purposes," Kemp wrote.* Kemp's invention spawned an entire solar water heater industry in the southwestern United States by the late 1890s.

*C.M. Kemp Manufacturing Company sales brochure, 1892. Picture from University of California Santa Barbara, Special Collections, Romaine Collection

1928 Havana
Cuba

Improving upon Kemp's original solar water heater, William J. Bailey, a California engineer, separated the solar water heater system into two discrete units — solar collector and storage. His collector consisted of a glass-covered box containing pipes soldered to a metal plate. The storage tank was heavily insulated. This new system heated water quickly and stored hot water for relatively long periods. Bailey's system revolutionized the industry and made solar water heaters popular in the American west, southwest, Hawaii, Florida, the Caribbean, and portions of South America. In Miami alone over 40,000 solar water heaters were installed by 1940. Brand name solar water heaters such as "Agua Solar," manufactured in Havana, prospered as well.

1960 Osaka
Japan

The post-World War II energy glut in America stifled any further development of solar water heaters in the United States. Less abundant energy supplies in Israel, Australia, and Japan spurred the growth of solar water heater industries in those countries. Solar water heaters based on American designs enjoyed success in Australia and Israel. A unique, inexpensive disposable plastic solar water heater saw phenomenal sales in Japan. Composed of a fifty-gallon black vinyl bag set horizontally on a wooden base and usually covered by a plastic canopy, the Japanese heater provided hot water during most of the year. It cost only $4 (1960) and lasted between two to four years before having to be replaced. By 1966 over 3.7 million plastic solar heaters had been installed in Japan.

◎諸外国でも好評…日・米・伊特許

どなたも奨める……

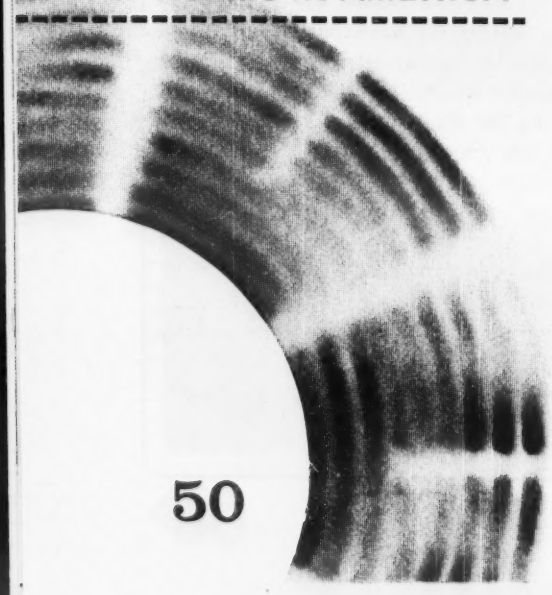
マルネツ

温水器

逆流防止器・掃除口付き

製造発売元　大阪　太陽社

SOLAR HEATED HOMES IN AMERICA



1909 New England

America's architectural roots reveal a long history of homes designed to their climate. As early as the 8th century A.D. Pueblo Indians of the American southwest oriented their structures south. Spanish settlers to the same region built their homes in a similar fashion. In New England, beginning in the early 1600s, colonial families constructed homes like the salt box shown in this illustration. The main rooms of the salt box normally fronted south to catch the winter sun. An eave or pergola (a vertical lattice) commonly extended over the south side of the home. "The great advantage of the pergola," one manual suggested, "is that the vines that cover it afford shade in summer, while in winter there is nothing to interfere with the air and sunlight which should be admitted as freely as possible to the house."*

*The Craftsman, 1909, p. 477.

1940 Chicago Illinois

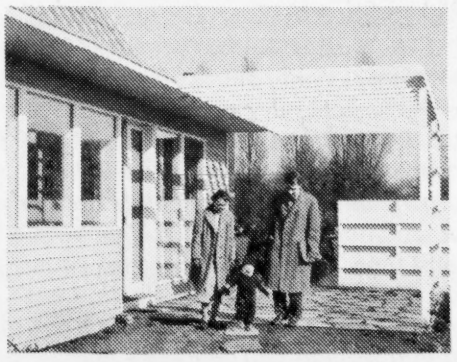
During the '30s and '40s Chicago architect George Fred Keck pioneered a solar housing trend that lasted more than a decade. Starting in 1932, Keck refined the basic principles of solar design into what he called the "solar house" which is pictured above. The "solar house" was long and narrow with its main rooms fronting south. Its entire south facade consisted of double pane insulating glass. Extended eaves ran the length of the home's south side, shading its interior during summer. Residents of solar homes claimed they saved as much as 36% on their winter heating bills. Such reports prompted **Business Week** to call "solar houses" "The newest threat to domestic fuel."* During World War II, magazine articles on "solar houses" increased their popularity and helped set off a solar boom after the war. Dozens of solar sub-divisions went up in the late '40s.

*Business Week, October 5, 1940, p. 20.

BUTTI/PERLIN

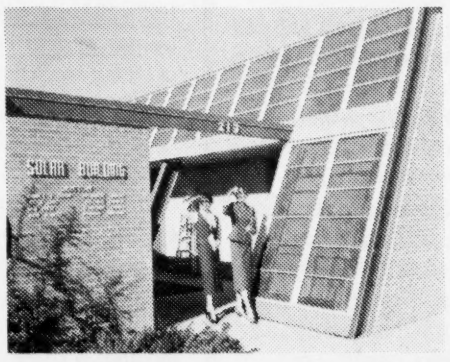
1944 Boulder Colorado

The War Production Board in 1942 requested that research chemist Dr. George Lof form a research and development team to design a practical solar home heating system. The board believed that solar energy could save precious fuel the nation might need for the war effort. Lof's team invented a solar hot air heating system that could be easily adapted to a standard forced-air heater. To test the system Lof placed a large array of solar collectors to the roof of his Boulder, Colorado bungalow. Air was heated in the collectors and either circulated directly to the house or to a heat storage bin in the basement. During its second year of operation, Lof's system supplied approximately 1/3 of the home's heating needs.



1948 Cambridge Massachusetts

Coupling two solar home heating strategies — active and passive — the Massachusetts Institute of Technology (M.I.T.) in 1948 renovated a laboratory into a home that obtained nearly all of its heat from the sun. Solar collectors similar to those developed by William J. Bailey filled the southern portion of the roof. The home's south facade boasted large double-pane windows as did most of Keck's homes. The windows trapped enough solar heat on sunny winter days to keep the home warm from morning until evening. Meanwhile, the active system gathered and stored solar heat for use at night and on cloudy days. The two systems supplied over 80% of the home's winter heating needs.

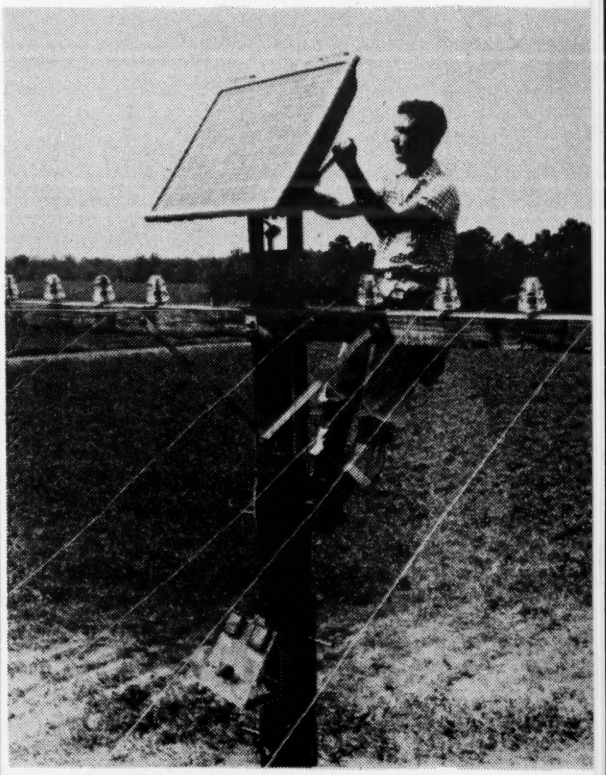


1956 Albuquerque New Mexico

Engineers Frank Bridgers and Don Paxton in 1956 built the world's first solar-heated office building. They developed an innovative system which used solar collectors in conjunction with a heat pump — a device that extracts heat from one source and moves it to another. This system both heated and cooled the building. During most winter days solar energy gathered by the collectors was sufficient to heat the building. Several times the heat pump had to be called into action when solar energy alone could not keep the building warm enough. The heat pump also functioned as an air-conditioner during summer. Bridger's and Paxton's system supplied nearly 100% of their offices' heating and cooling needs. However, even though most of the solar heating systems developed in the late '30s and '40s were technically successful, they could not compete with the inexpensive fossil fuels of the time.

M.I.T.

Solar Electricity



BELL

1955 Americus Georgia

Darryl Chapin, Calvin Fuller, and Gordon Pearson of the Bell Telephone Labs developed in 1954 the first effective solar cell. Using silicon, their cell could directly convert 6% of the incoming sunlight into electricity. Two years later they produced even more efficient cells with a conversion ratio as high as 15%. This was almost 20 times better than prior solar cells made from selenium. News of the Bell Telephone discovery set off a wave of fabulous stories in the press, predicting such sci-fi dreams as solar-powered cars in which "all the riders could sit comfortably in the back seat and watch solar-powered T.V. . . ."* Bell Telephone Labs, however, had more practical uses in mind. Pictured above is a telephone sub-station in rural Georgia where Bell powered its telephone service with solar cells. Although the early cells proved too costly for this and other terrestrial applications, they became the principle power source for most American spacecraft. Some wondered, however, why government and industry never funded research to develop more efficient solar cells for ordinary, commercial use instead of putting all their money into nuclear power. ■

*Business Week, July 20, 1957, p. 67.

Solar Pathfinder

A gadget came into my hands a few days ago that **CQ** *readers who do any amount of solar work might want to know about. In designing houses and evaluating the potential of a site for solar, you need to know how much sun is available. This simple gadget displays daily sun paths and shading from surrounding objects directly on its transparent dome. Usually, to get the same information, you'd have to coordinate the sun chart with a hand level to plot obstructions such as trees.*

It's a nicely designed tool for designers.

—Sim Van der Ryn

Solar Pathfinder

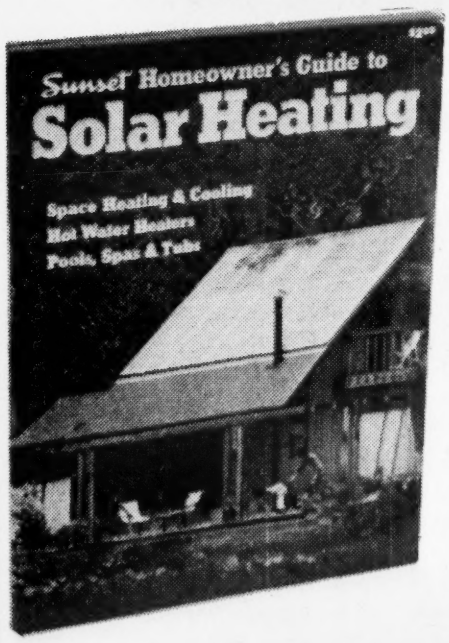
$124 (includes shipping, handling and insurance)

from:
Solar Pathways, Inc.
Valley Commercial Plaza
3710 Highway 82
Glenwood Springs, CO 81601

Solar Heating

If you need to familiarize yourself or someone else with the many options available to those who would go solar, this book offers one of the very best overviews. The schemes are shown and explained with Sunset's usual high standard of publishing and writing, but many of the drawings are so small that it is difficult to tell one from another after looking at them for awhile. For this reason I have been reluctant to review it in **CQ**, *but so many readers have recommended it that I hereby relent. In most ways it is one of the very best places to start your solar education. At the price, it is an unusual bargain.*

—J. Baldwin



Sunset Homeowner's Guide to Solar Heating
Holly Lyman Antolini, ed.
1978; 96 pp.
$2.95 postpaid from:
Lane Publishing Co.
Menlo Park, CA 94025
or Whole Earth

Improved numbers for solar design

Perish forbid we look at any more solar energy books, but here are two that typify recent happy developments. First is a modest specialty book describing latest proven figures and techniques necessary to make a successful Trombe Wall. Far more useful than a cursory descriptive pamphlet, and much more current than a hardbound book that takes three years at the publishers, this book represents a trend towards getting the useful information out as soon as possible. I'm glad to see it.

—J. Baldwin

Thermal Storage Wall Design Manual
Alex Wilson
1979; 40 pp.

$4 postpaid from:
New Mexico Solar Energy Association
P.O. Box 2004
Santa Fe, NM 87501

The surface of the mass wall should be a **dark** color. If using paint on the mass wall, it should be black or a very dark color and should be able to withstand the high temperatures reached in a Trombe wall collector. Darkening agents other than paints may be used, depending on the wall material. Wood stains have been used to darken adobe and concrete block. Cement stucco can easily be darkened with added pigments. Counter to much previously published information, there is apparently very little difference in absorption between flat and glossy paints, glossy paints being, in fact, better as they tend to pick up less dirt and dust.

Another interesting and useful up-and-coming idea is solar calculations set up as programs for hand-held programmable calculators. This enables you to execute otherwise annoyingly painful (and boring) math operations with a minimum of fuss and time. Also, such programs allow you to try, on paper, "just changing it a little bit," and "I wonder what would happen ifs" which would normally be such a drag that you wouldn't. There are a number of such programs available. This one seems typical. The presentation is very straightforward, free of gee whiz, and easy to use. However, this reviewer is not a computer expert, and I've not actually used this book. I'd appreciate some war stories from someone who has.

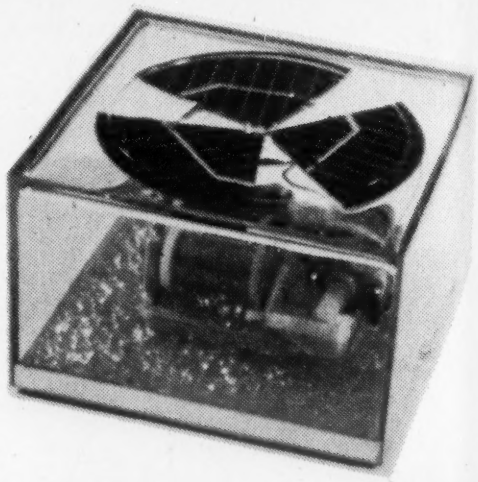
—J. Baldwin

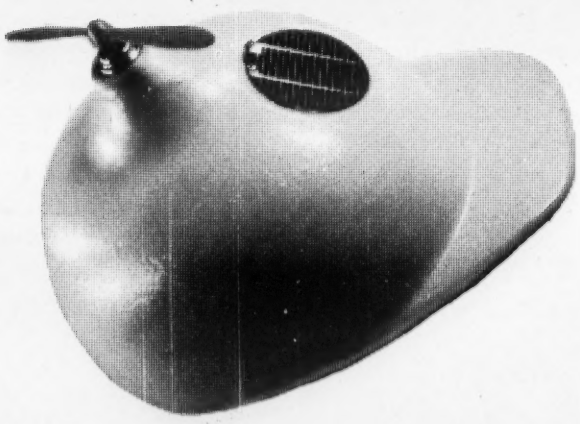
Solar Energy Calculations & Programs (using A.O.S.) for Pocket Programmable Electronic Calculators
Henry C. Landa
1979; 86 pp.

$4 postpaid from:
F.I.C.O.A.
2901 S. Wentworth Ave.
Milwaukee, WI 53207

Solar beanie and music box

Far more effective than a T-shirt, more fun than a solar collector, these toys demonstrate your solar obsession to your public. The propeller on the beanie spins when you stand in sunlight (varying sensitively with angle, partial shade, etc. — interesting); the music box tinkles to the sunshine, "You Are My Sunshine," and other tunes. These novelties are available from other sources, but Zomeworks has easily the best prices. —SB





Solar Beanie
$13 postpaid
Solar Music Box
$21 postpaid

both from:
Zomeworks Corp.
P.O. Box 712
Albuquerque, NM 87103

Solar Law Reporter

What do you do if that new apartment next door shades the solar water heater you just installed for $564.23? What can you do if that new collector panel falls apart two weeks after you get it? How do the various states compare in tax rebates for solar? How are the federal energy laws being interpreted? What are the legal implications of large corporations getting into solar energy? You can bet it's complicated! This publication will help you keep up with how such questions are being answered in the courts, and what may reasonably be expected. This is a "professional journal" in every way and should be very helpful in reducing the inevitable hassles that accompany any new ideas. Sharp editing makes it easy for the layman to understand the issues presented. Fresh ammunition for fighting city hall! —*J. Baldwin*

Solar Law Reporter

$7.50 /year
(6 issues) from:

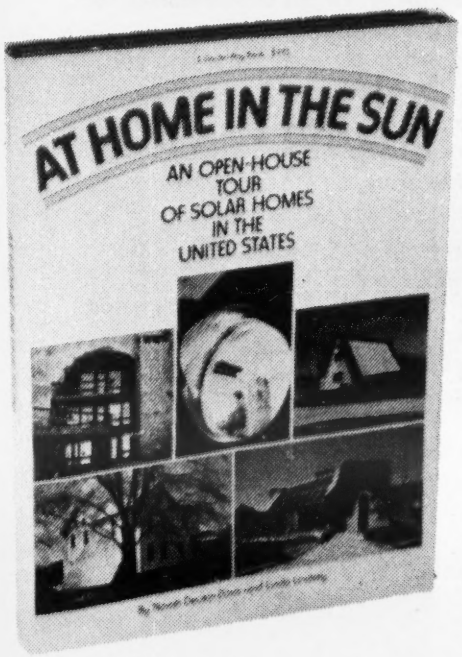
Solar Law Reporter
P.O. Box 5400
Denver, CO 80217

Armond Piscopo and his family reside in Montgomery Village, Maryland, a planned community of approximately 18,000 residents. During the summer of 1977, Mr. Piscopo and his two sons decided to install a solar hot water system on their colonial-style house as a family science project. Mr. Piscopo applied for and received a HUD grant from the Maryland Energy Policy Office. The project stalled when the Architectural Control and Montgomery Village Foundation Executive Committees denied his request for approval because erecting solar collector panels on the front of his home would not be "aesthetically pleasing." . . .

Maryland Delegate Judith Toth introduced HB 265 in a legislative effort to prevent recurrence of such problems. The bill in its present form would not allow restrictive covenants to limit installation of solar collector panels on the roof or exterior walls of improvements. The bill has passed the House and is in the Senate.

At Home in the Sun

Real people living in real solar houses tell what it's like, both good and bad. Though many readers will have fun trying to imagine living in these houses, to me the usefulness of this book stems from its effect as a myth-reducer. The mindless pro-solar crazies get brought back to day-to-day realities such as leaks and overdesign, and the solar-doesn't-work people must admit that it does indeed work for quite ordinary families. Lots of good photographs and diagrams lend an air of truth to the book. Refreshing. —*J. Baldwin*

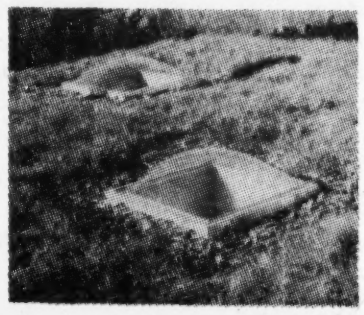


At Home in the Sun
(An Open House Tour of Solar Homes in the United States)
Norah Deakin Davis and Linda Lindsey
1979; 236 pp.
$9.95 postpaid from:
Garden Way Pub. Co.
Charlotte, VT 05545
or Whole Earth

Underground Houses

Another in the growing number of "underground" books, this one is worth a look for its attention to details that only the hard lessons of experience can provide. As with most underground designs unbuilt or built, this one can't be vouched for when it comes to longevity. It's pioneer territory. Exciting and a little maddening. But one thing you won't go wrong on here is attitude. The tips on how to select an excavating contractor, how to pour concrete and how to choose lumber are just right, and are all too often left out of building manuals. If I were considering building an underground house, I'd certainly have this book on hand whether I agreed with all its details or not. —*J. Baldwin*

Underground Houses
(How to Build a Low-cost Home)
Robert L. Roy
1979; 128 pp.
$5.95 postpaid from:
Sterling Publishing
2 Park Avenue
New York, NY 10016
or Whole Earth



Leaks in Skylights

Proper flashing of skylights is tricky business. Our primary mistake, as we learned, was to use soil with poor drainage near the skylights. Drainage is of paramount importance in taking the pressure off any waterproofing system. We cured the problem by digging up all the earth within a foot of the skylights and the main stovepipe. We then cleaned and dried the area thoroughly and applied plenty of roofing cement and 6-mil black polyethylene, well lapped. Finally, we used sand to backfill the skylights and spread wood chips over the sand for the sake of appearance. The sandy area around the large living-room skylight is connected to the bathroom skylight area by a 4-inch non-perforated flexible drain pipe imbedded in the intermediate topsoil. I carefully placed loose hay over both ends of this pipe to prevent infiltration of sand and soil. The bathroom and office skylight areas are similarly drained to the sand-backfilled area adjacent to the east and west walls. The sandy areas around the skylights, then, are finally drained to the primary footing drain system. The 4-inch pipes are sod-covered and invisible.

Gossip from SERI

. . . I have left my native, beloved New England for the extremes of Golden, Colo. I was fortunate to get a job at The Solar Energy Research Institute. As I'm sure you realize, solar is economical. Paper studies (yech) we just finished show that hi-tech solar will pay back in less than 6 years by 1990. Now we go to convince DOE of this.

A conflict of interest. The infamous MX missile system (mobile missiles in trenches) will be supported by solar power according to latest news. There will be 225 shelters (or something like that) each requiring 20 kw solar/electric systems. One billion $ kick in the butt for solar if it unfortunately comes to pass.

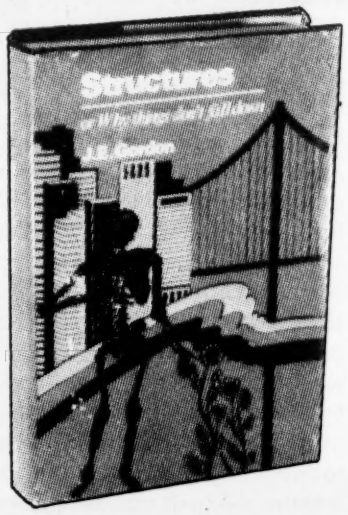
Things are positive at SERI since Denis Hayes (*Sun*day, Solar Lobby) was named director. We're bustin' our butts to get solar going on large scale.

—John Kowalik
Golden, Colorado

Structures

Guess who stayed up all night reading a structure book? That's extreme behavior even for a technotwit! What fascinates me about this book is the way it illuminates a traditionally difficult subject. Most other books challenge the reader not so much with the task of understanding the subject matter, as with comprehending the writing. No problem here; this must be one of the all-time great examples of clear presentation combined with an interest-holding writing style. (What good are clear explanations if you fall out of your chair from boredom?) Such matters as stress, strain, Young's Modulus, cantilevers, shear, and torsion are discussed as theory nicely tied to real-life examples. Simple illustrations and competent photographs reinforce the often witty text. The Secrets Are Revealed. Now if Mr. Gordon would only write on elementary physics and chemistry. In these days when an exclusive knowledge of technology can be used to exploit a populace, such books as this one have a particular importance. I recommend it highly both as a means of understanding the structures around you and as an example of how good a technical book can be. —*J. Baldwin*

Structures
(or Why things don't fall down)
J. E. Gordon
1978; 395 pp.
$17.95 postpaid from:
Plenum Publishing Co.
227 W. 17th Street
New York, NY 10011
or Whole Earth



What makes the arch dramatically different from a mere plebeian wall is that, whereas the wall falls down [with a severe crack], the arch does not. From Figure 15 it can be seen that no fewer than *three* hinge-points can develop in an arch without anything very dramatic happening. In fact a good many modern arch bridges are deliberately built with three hinged joints so as to allow for thermal expansion.

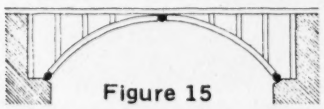


Figure 15

If we really want the bridge to fall down then we shall need *four* hinge-points so that the arch can become in effect a three-linked chain or 'mechanism' which is now at liberty to fold itself up and collapse (Figure 16). Incidentally, this is why, if you want to demolish a bridge — for good or bad reasons — it is best to put the explosive charge somewhere near the 'thirds point' of the arch. This generally involves digging down through the roadway so as to reach the top of the arch ring. Since this takes time, the demolition of bridges behind a retreating army is often ineffectual.

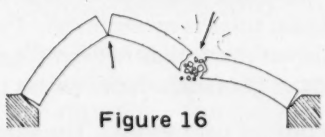


Figure 16

All this means that arches are extraordinarily stable and are not unduly sensitive to the movements of their foundations. If there is any appreciable movement in the foundation a wall will probably collapse*; arches do not much mind, and some sort of distortion is quite common.

*This is the rationale of mining or sapping under fortress walls during siege warfare. When the end of the tunnel was beneath the foundations of the wall its roof was supported by wooden props. At an appropriate moment a fire was lit so as to burn through the props, when it was hoped that the wall would collapse. The function of both wet and dry moats was chiefly to prevent sapping.

•

It will be seen that there is a large premium on low density; thus steel comes out rather badly, even compared with bricks and concrete. Furthermore, for many light-weight applications — such as airships or artificial limbs — wood is even better than carbon-fibre materials, besides being much cheaper.

In Table 8 these virtues are expressed in terms of energy-cost.

Material	Energy needed to ensure a given stiffness in the structure as a whole	Energy needed to produce a panel of given compressive strength
Steel	1	1
Titanium	13	9
Aluminium	4	2
Brick	0-4	0-1
Concrete	0-3	0-05
Wood	0-02	0-002
Carbon-fibre composite	17	17-0

These figures are based on mild steel as unity. They are only very approximate.

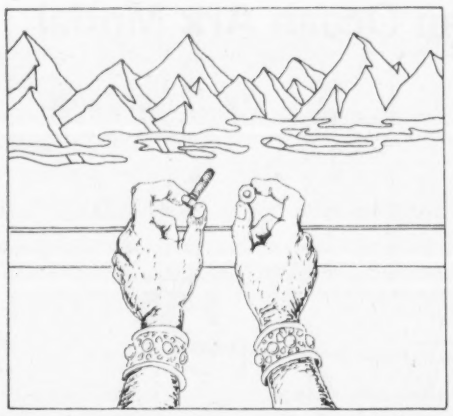
Here the advantage of the traditional materials — wood, brick and concrete — is overwhelming. This table makes one wonder whether the pursuit of materials based on exotic fibres is really justified. What really pays off for most of the common purposes of life is not carbon fibres, but holes. Nature tumbled to this a long time ago when she invented wood; and so did the Romans when they started to build churches from empty wine bottles. Holes are enormously cheaper, both in money and in energy, than any conceivable form of high-stiffness material. It would probably be better to spend more time and money on developing cellular or porous materials and less on boron or carbon fibres.

Simplified Engineering for Architects and Builders

Back around the turn of the last decade, a lot of us headed into the hinterlands and among other things we built houses — some of them still standing. We probably overbuilt in most cases, intuiting beam, joist, and rafter sizes with a conservative margin of error. With a roof over our heads, some time to read — and maybe another building in the offing — Parker will earn the stiff $20 cost of this book, saving materials, at least, if not lives. This isn't "Engineering for the Compleat Idiot" — it's a sound explanation of the principles of structural mechanics, covering steel, wood and concrete construction and roof trusses. Includes an index, table of units and abbreviations, clear explanations of forces, stress, compression, shear, bending moment, modulus of elasticity, etc. — enough theory and nomenclature to understand and converse with engineers, or to build a shed or a house that won't fall with the first wet snow. Full of handy tables, clear diagrams, and numerous sample problems (the real life kind), with answers. I've found it equally useful in a structures course and on the job site; sure, I hate math too — but it's fun to understand how and why to build, for which this is as useful and necessary as a square or level. Unfortunately, engineers went decimal quite awhile ago, but there's a convenient table on the inside cover that can be used to convert back to the fractions you're reading on your tape measure. —*Tom Keefe*

Simplified Engineering for Architects and Builders
Harry Parker
1975; 411 pp.
$18 (clothbound) from:
John Wiley & Sons, Inc.
One Wiley Drive
Somerset, NJ 08873
or Whole Earth

INCA SALVAGE



TWO STORIES by Steve Baer

Solar inventor Steve Baer runs one of the older solar firms now operating – Zomeworks, in Albuquerque, New Mexico since 1969. –SB

Illustrated by Paul McKenna

THERE ARE NO WHEELS or axles in one's body. We work with joints flexed back and forth, elbows, knuckles, jaws and knees – they bend but never rotate. Contemplating a wheel spinning about a shaft can give you a kind of giddy feeling – like looking at a razor blade, what if this were happening to you?

Today wheels, bearings and spinning devices are everywhere.

What if at one time there were people who understood wheels, but simply refused to place one part to spin around another? Could this be true? I do not know. I do know that in one's own work of inventing devices or solving problems reasonable and economical answers may be rejected because they simply are not pleasing to the heart and mind of the inventor. Could a similar bias be true for a large group of people?

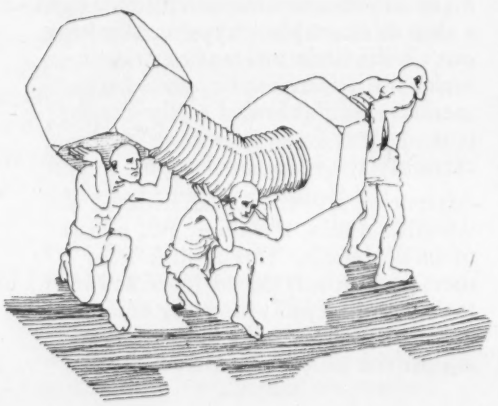
I recently visited Peru, location of the ancient Inca civilizations. The Incas built huge buildings, irrigation systems and roads. To do this they shaped and moved rocks weighing many tons. They smelted metals, understood astronomy, developed corn and the potato. One man, the Inca, controlled an empire 2,000 miles long. The Incas did not use the wheel.

On my visit, I kept thinking about the wheel. The Incas worshipped the sun – the sun seems to turn in the sky. Did they reserve the right to turn to the sun? It does such a perfect job, no squeaking, no grease fittings, no wear. Was it seen as offensive for other things to turn?

People puzzle over the collapse of the Incas when they were confronted by Pizarro. Did Pizarro pull a little cart behind one of the horses? Did this get the Inca's goat?

I saw numerous wooden carts in the market places in Lima that used old automobile wheel bearings pushed onto wooden axles for wheels. Could these urchins and peddlers with their crude carts be unwinding the space twisted by the original equipment? A wheel bearing from an old Lima taxicab could be turned 180° and placed on one of these carts – then when the cart went forward some of the space twisted by the taxi would be unwound and some of this insult to the sun corrected.

I imagine Inca Salvage. A crew of the short Indians working behind low adobe walls on the outskirts of Lima – the dry mountains visible through the haze and the ground covered with the usual carpet of broken glass and blowing papers. Inca Salvage has a different atmosphere than other junkyards. These men are not metal cannibals. They are solemn and careful. The bolts and screws are untwisted and dropped in boxes. It is like a religious activity. The bearings are labelled and prepared for the unwinding. The Incas, working here in this peculiar junkyard know that if they can ever come close to unwinding the white man's crime that the white man will leave. Strikes have closed down the local Ford and GM plants and Inca Salvage sees an end in sight. ■



BARNHILL BOLT, ALBUQUERQUE

PEOPLE WAIT at the counter to buy their nuts, bolts, and screws. This is a helix market place with countless perfect spirals of all sizes threaded onto rods of steel, copper, brass, stainless steel, aluminum and nylon, plus the nuts to screw onto them. Why wait here? Who needs what they have at Barnhill Bolt? A world built of bolts needs more bolts and builds more bolts for itself to use. (Lee Bentley tells me that they are descendants of the same bolt.)

The customers are dressed every way and they need every type of bolt or screw you can imagine. Their elbows have polished the metal top of the counter. One man has leaves still stuck in the back of his hair. Hands carry lonesome bolts looking for the right nut and equally lonesome nuts looking for the right bolt. Backs and shirt fronts are labelled with names such as United Nuclear, Fruehauf Trailer, Rogers Drilling – organizations of men, bolts and other hardware. Pickups and vans with the same names wait outside in the parking lot. Others wait in cut-off Levis wearing rubber shower shoes.

What a shape the helix is. Absolutely changeless, turn after congruent turn it is almost as if it were its relative the straight line – but put into a package or condensed.

Off in a corner is a rack of left-handed all-thread, a minority safely segregated from the right-handed majority.

As a nut rotates it moves up the bolt. All the nuts are finally sent up their bolts to hold something together. The nuts never talk back. Rotation makes the nuts squeeze, but squeezing doesn't make the nut rotate, they will break on the job before this happens.

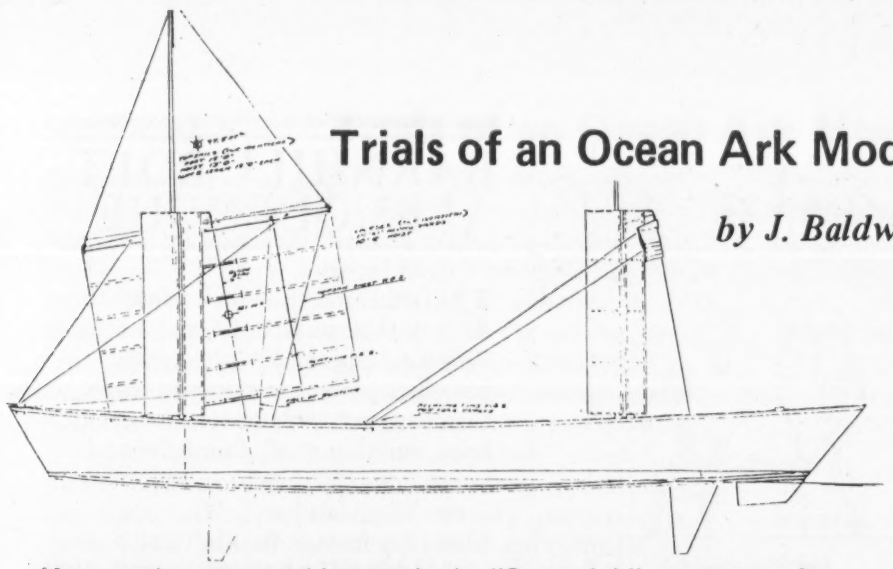
The bodies built without bolts or even any metals lean across the counter of Barnhill Bolt waiting for their bags and boxes of bolts, then they carry them on legs of flesh and bone out the door to the pickup trucks, bolts again among other bolts.

Another thing about Barnhill Bolt that I like is picking your number off a nail to get your place in line. The 15 numbers cycle off the nail into the crowd and back onto the nail all day long – exactly as if the public were being threaded through the store like a bolt through a nut.

Another thought – bolts and screws carry sick or broken people in ambulances with flashing lights while here people carry broken bolts on foot in their hands. ■

Trials of an Ocean Ark Model

by J. Baldwin



Many readers expressed interest in the "Ocean Ark" concept put forward by New Alchemist John Todd in the last **CQ** *(The Oceans Issue, Fall 1979) – especially in the radically different square-rigged ship design of Phil Bolger's. With airfoil masts, two centerboards, water ballast, flat-bottom hull, etc. she was an automatic controversy. Instead of chatting for years, as most of the current sail-cargo schemes do, Ocean Arks Ltd. proceeded immediately to model testing of the design innovations. Our Soft Tech editor J. Baldwin was in the thick of it. —SB*

Dear Stewart,

When John decided to build a 50-foot test model of the *Margaret Mead* in one day, the already hot controversy surrounding the project increased to a sizzle. Everyone I talked to had a very logical reason why the thing was going to fail. Nonetheless, last Saturday (Sept. 22) nearly 100 people appeared at the remote boatyard of Edey & Duff, at 7:30 a.m., in a discouraging drizzle, to help build the boat they so enthusiastically denigrated. We were greeted by Peter Duff and a pile of plywood, caulk and big staples, all of whom were in an open-front chilly boatbuilding shed. A long puddle snaked across the dirt floor as a very tough orange pussycat held off several visiting hounds. Not a particularly cheerful scene.

Peter Duff is noted for building good, unusual boats. He isn't very dramatic physically, but when he quietly explained what we were to do, things really began to fly. He gets things done by commanding respect; no shouting needed. We quickly laid plywoods end to end and volunteers buttered connecting battens with 3M 5200 Marine Adhesive (gakky, toxic and strong). Peter's men fired up monster air-driven staple guns and proceeded to FUP! the plywoods together into 50-foot long strips. These strips were then lifted by long lines of volunteers who wrestled the floppy things into place on a pair of forms (called "molds") made from scrap lumber in the contour of the midship hull section. When both strips were in place, the ends were forced together and we then were able to admire what was obviously the world's largest upside-down dory with no bottom. . . .

When the bottom was on, Peter assembled the crowd and informed us that we were now going to pick up the completed 50-foot hull and "flip it over." Well sir, it wasn't exactly a flip, but it did go over and didn't break apart and no small children were crushed beneath the hull. Time 5:30 p.m. . . .

Dear Stewart, Oct. 8

Well, we launched her! . . .

Peter called "at your convenience" and we began to roll her out of the boat shed. She was much too big for the trailer, so we had to use people instead of a truck to tow and push it. As we approached the launching ramp, Peter called a halt and we hitched a line from the trailer to a 4-wheel drive in order to prevent a runaway premature launch. The plan was to pause again right at the water's edge while Becket Todd, John's oldest daughter, did the champagne but she suddenly whacked it without ceremony at all and *Nancy Jack* slid into the water easily with nary a splash, drawing all of four inches. Applause, Cheshire Cats, and only a few very minor leaks.

After tying her up, we decided to eat and the crew followed Peter home for a potluck. His house, still a-building, is noticeably boatlike in its detailing and strongly bespeaks his style and craftsmanship. Phil Bolger (*Nancy Jack*'s designer) discussed what homework would be necessary to begin detailing the *Margaret Mead* assuming that *Nancy Jack* was a success. Hearing him talk made me realize how much he designs a ship as a complete system, thinking out all the little interactions that make the difference between being merely acceptable and really excellent. I agree with John that he is certainly the man for the job.

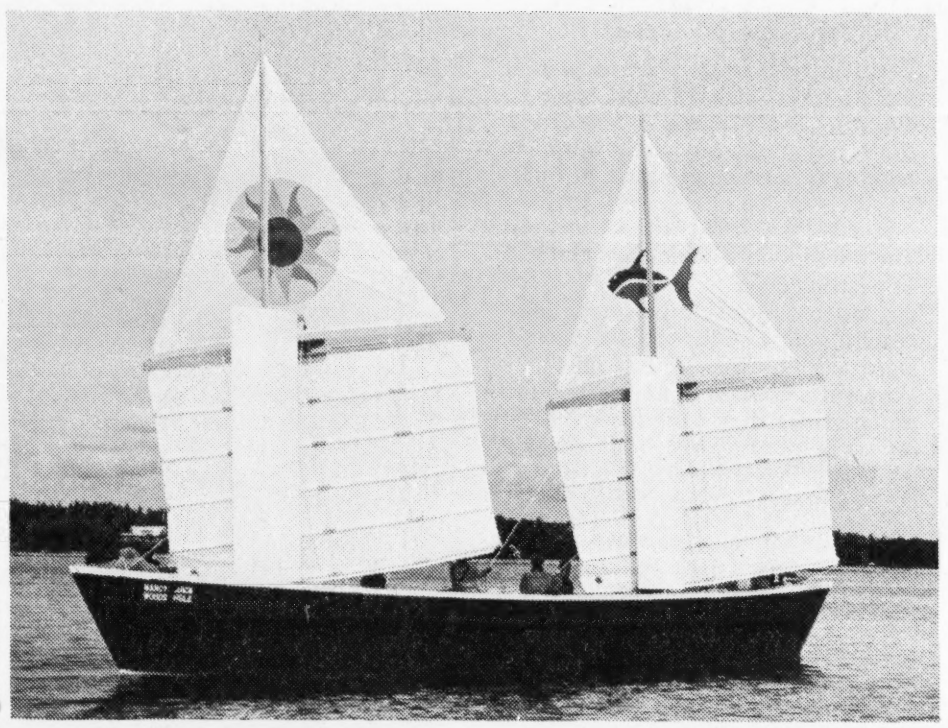
Afternoon saw the installation of the winglike masts, the tiller, and a host of small details. The commentary seemed a lot less doom-filled as the reality of a happily floating craft began to fire people's imaginations. About the only thing that didn't look too good was the, uh, springy bottom. It was definitely reminiscent of a trampoline. Phil assured us that *Nancy Jack* would "eventually break up, but if she doesn't sail I'll have to hide in a cave." Many hands installed the yards and square-rigged sails, but the wind was even stronger and sailing was out of the question so we went home half satisfied. That night on channel 6 TV Peter finished an interview by answering the question, "And what is the purpose of that bow rudder?" Peter said absolutely deadpan, "How the hell should I know?"

Dear Stewart, Oct. 11

Sailed her today! This time the problem was that there *wasn't* any wind. Well, there was a wee little bit, just enough to fill the sails. The sails are *beautiful*! Wow . . . the foretopsail has a huge blue and green fish sewed onto it, and the mizzen displays a sunburst; gifts from the sailmakers. *Nancy Jack* with sails is no longer quite so simple. She is, in fact, a true snake-rape of lines for every contingency, since nobody has ever sailed a boat like this before and thus nobody knows exactly what will be needed. The water ballast tank is full and we are ready to go. With a crew of ten stalwarts and a big pile of lifejackets, we take a tow from a fat Bolger-designed launch until we're free of the narrow passage connecting the dock and the bay. With everybody on board and the ballast tanks full, we drew maybe 9 inches with the daggerboards up. Maybe three feet with 'em down. She looked good. I don't know if the photographs will show it, but there is (to my eye anyway) a rightness about the way she sits. A square-rigger for sure, but not exactly the Cutty-Sark either. We began to move on a mere breath of air and soon the platty-platty so typical of a sharpie design was heard under the bow. Peter was steering but not having to work at it much. We tried a tack. She sailed backwards, but we soon found out how to maneuver the sails and rudder. And, Stewart, *it sails to windward!!!* With no fore-and-aft sails, it goes to windward even in very light air. This is truly new! Nobody has ever made a square rig go to windward like this before! Phil is right! We sailed around for a few hours, beat a 16-foot Herreshoff Doughdish running, . . .

Dear Stewart, Oct. 15

Sheesh! We just got home from a wild day of sailboat testing. This time we had wind, to say the least. An all-star crew too. Phil Bolger, Peter Duff, Steve the sailmaker, "AD" a boatbuilder-artist who has been helping the cause, us, John Todd and his son Jonathan. We rowed out to the anchorage and discovered that the *Nancy Jack* was a foot deep water inside, the result of small leaks and a very hard week of rain. Much pumping and bailing ensued before we were ready to set



©Benjamin Mendlowitz

sail. By then the wind was hustling right along . . . estimated 20 - 30 or so. We backed *Nancy Jack* down off her mooring and majestically set forth into Buzzard's Bay.

But things were not going at all well. For one thing, Peter and Phil had not had an agreement as to who was captain. Both are modest men, and so we didn't *have* a captain. This became dramatically apparent when Steve lost control of the mizzen brace lines. The wind flat overpowered our physical ability to control the sails! Desperate measures (spurred by sometimes conflicting orders) were taken with us using the thwarts as snubbing cleats as we attempted to control the by now very out-of-control *Nancy Jack*. We tried to tack but instead of going into irons and stopping, she jammed her rig across the masts, broke a batten with a loud (and heart-stopping) bang, and heeled over far enough to be entirely scary. Then she took off before the wind, backwards, fast, heading right for the rocks maybe 500 yards away. Peter said rather laconically considering the situation, "set the anchor" and I did the honors without incident until John Todd informed me that he couldn't hold the line. I grabbed the line to help him, but it zizzed viciously through our fortunately gloved hands. At the last minute we took a few wraps around a thwart not made for such outrage and snubbed it. Egad! To add to the chaos, the damned yard lifts jammed under the strain, and so instead of reefing, we just dumped the whole fouled mess to the deck. Nobody hurt. Only minor damage. Everybody puffing and rubbing their chafed hands. Peter took the dory we had in tow and laboriously commenced rowing upwind to the harbor to fetch a tug. He was gone a couple of hours while we disconsolately stood in the middle of the channel gloomily observing the fact that the anchor was dragging and we were getting too close to a lee shore. But all came out OK. Peter returned with the tug and easily towed us back to the mooring. We rowed back to a most welcome shore and repaired to a yummy restaurant to lick our wounds and hold a post-mortem. A plan of action was decided upon and it was agreed who was captain.

Next time out will see a considerably improved rig with more leverage, and me wearing a wet suit. Some people present were a bit discouraged, but this sort of thing is what "experimental" means. The hair-raising aspects of it are one reason more people don't experiment, but such things don't bother me at all. Quite the reverse. Today beat hell out of sitting in front of the TV watching the Series, and we'll all be back for more. . . .

Oct. 23

Disciplined as hell, we got under way real snappy today. Everything went well with John's Dad along, and AD and Peter tending the sails. We hustled right along down the harbor and out into the bay, propelled by a modest breeze. We messed with the rig, first trimming one sail and then the other, raising and lowering the two daggerboards, and (me) steering in concert. Things were looking good. We slowly made our way to windward in a not-particularly-impressive manner and were just getting ready to try a new idea for tacking when a sudden gust laid us right over. So far, in fact, that the gunwale touched the water. We used the side of the boat as the deck! You never saw so many lifejackets installed so fast. We didn't discuss it then, but later all agreed that we had expected a swim in about another minute. We couldn't get the sails to drop because of the extreme pressure from the gust. I tried to steer away from it, but the rudder apparently was nearly out of the water at that angle, and we had found that *Nancy Jack* responded rather slowly to rudder input anyway. (In fact, a too-quick rudder motion was likely to slow the boat by "tripping" it.) We stayed over at that dramatic angle long enough for many thoughts to pass through the mind. I was thinking of John's Dad who was still recuperating from heart surgery, and how a swim in the cold bay would affect him. Peter didn't give any orders and neither did AD. Nobody said anything. Nobody looked scared, just interested, but afterwards we all admitted to being shaken. Even super-cool-man Jonathan said he thought we'd had it. Anyway, *Nancy Jack* slowly, slowly came up vertical again. We breathed the traditional sigh of relief and headed home. Both Peter and I had seen something that disturbed us; the force of the gust had caused a visible distortion of the structure in the area of the mast partners. Peter later said that he expected the mast to punch out the bottom of the boat at any minute. My money was bet on gunwale failure. There were horrifying cracking noises, and I saw a distinct sine-wave in the plywood topsides. Nothing actually broke, but it was agreed that things had been pushed to the prudent limit, if not beyond it. At lunch we held a council and decided to pull her out for the season, make certain strengthening modifications in the hull, and add a stern rudder as well as a centerboard. The proposed modifications have the effect of continuing *Nancy Jack*'s role as an experimental craft in which we can try many more ideas including a fore-and-aft rig (making her a "hermaphrodite" as they say).

This has been a most interesting series of tests. You make a guess and try it. The guess is based on theory and experience. Where the real professionals are at an advantage is in the interpretation of the results of the tests. We've learned a lot from *Nancy Jack* and we'll learn more in the spring. I'm glad John has had the courage to make these trials, for by them we have taken the first steps to actually accomplishing the *Margaret Mead*. Why don't you plan to be here for the spring trials? We can promise some real fine sailing. (Bring a life jacket.) —J.

Ocean Ark Corp., John Todd

MEMORANDUM

TO: Ocean Ark Corporation Directors:
Stewart Brand, Jane Lehman, Maurice Strong, Martha Stuart and Nancy Jack Todd

FROM: John Todd, President

SUBJECT: Report on Trials on the 50' Test Model Brig, *Nancy Jack*

DATE: November 8, 1979

Thanks to your help I was able to go ahead and have the 50-foot brig, the *Nancy Jack* built as a test vessel for

the 230-foot *Margaret Mead.* As a consequence, Ocean Ark Corporation had a chance to determine in "real time" various design concepts that Philip Bolger has proposed for the *Margaret Mead.* This we did at a one-fifth scale with the smaller open boat, the *Nancy Jack*, at less than one one-hundredth the cost of the full-sized vessel.

The test model was designed, built within budget, and launched – all in five weeks. The designer, Phil Bolger, and the builder, Peter Duff, did a really creditable job. Steve Sperry made excellent sails.

We began preliminary testing this fall and have already gained some valuable experience. Even more important perhaps, I now feel ready and see how to experiment with the various elements of the design and to determine their relative contributions to the overall performance of the vessel. J. Baldwin, Kathl Whitacre and Jonathan Todd assisted in the fall trials and will make up the core of the test team in the spring.

At this juncture I want to give you my impressions of the more controversial aspects of the test model's design.

1. *Water-Ballasted Hull*

The double bottom, water-ballasted design was a success. The boat was relatively stiff and had a fairly easy motion. Without the ballast, however, it behaved badly, "skating" sideways while tacking, and was vulnerable to gusts. On one occasion while unballasted she was knocked by a moderate gust within a few inches of capsizing. Overall, Phil Bolger's water ballast shows promise in a relatively shoal draft sailing vessel.

The hull of the *Nancy Jack* was insufficiently stiff to undergo heavy weather trials. It will be stiffened this winter by increasing the size of the water-ballast chambers to create, in effect, a double bottom the full length of the hull.

2. *Bow Rudder*

The bow rudder was not a real success. The helmsperson had difficulty seeing the sails or communicating with the crew aft or amidships. The vessel did not respond significantly to the bow rudder at slow speeds. We will leave the forward rudder on the vessel but install a stern rudder. This way we can compare the two approaches to steerage.

3. *The Rig*

The real innovation in the design of *Nancy Jack* is the rig. It is an attempt to devise a cost-effective and efficient propulsion system for commercial sailing ships. The test model is a brig, a true square rigger with two square sails and two triangular topsails known as raffees. The yards for the square sails are mounted on unique unstayed wing masts. The topmasts, when not in use, retract down into the wing masts. The overall rig is beautiful.

a. Topsails and Topmast

Everyone agreed that the topsail, or raffee, and topmast system were elegant. The "uppers" really drove the vessel along, especially when tacking or on a close reach.

b. Curved Yards

The curved yards which are capable of nestling close to the wing masts engendered more controversy. On certain points of the wind the windward section of the square sails (known as courses in nautical terminology since they hang from the lowest and only yard), were aback while the leeward sections were drawing and moving the ship forward.

When this happened the two forces tended to cancel each other and slowed the vessel dramatically. Next spring we will experiment with a straight yard which should avoid the problem of simultaneous backing and driving of the square sails.

c. Fixed Battens on the Square Sails

Several people questioned the need for fixed battens and recommended their removal. At this juncture I do not share their view. In my opinion, even if they don't improve sailing performance, they may be the key to safe and rapid reducing of sail area while underway. The battens and square sail reefing will definitely need refining, but I think we are on the right tack. Further testing is planned.

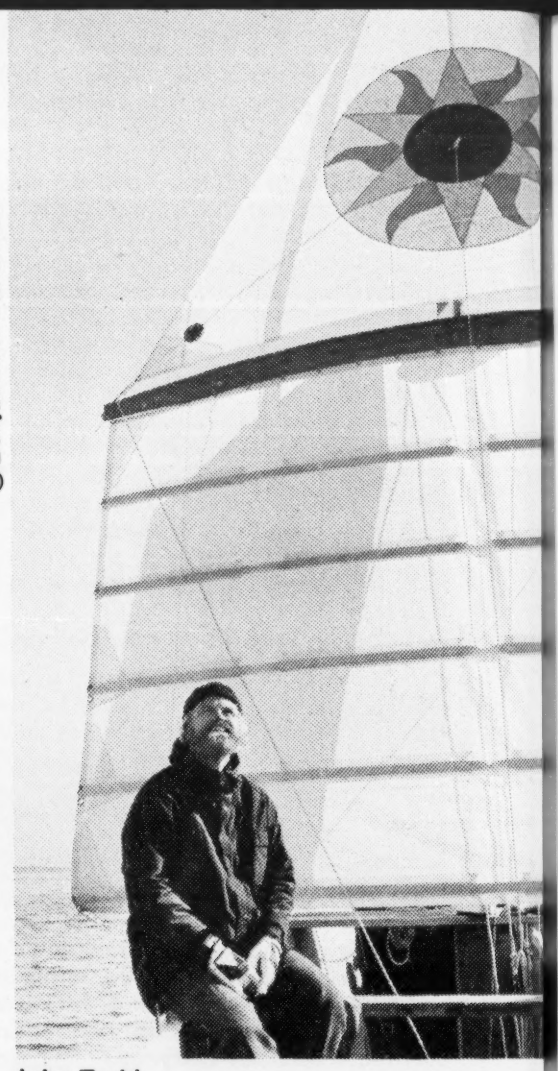
Perhaps it should be mentioned that the crew involved in the trials discussed the need for a hermaphrodite rig on the *Nancy Jack* with the addition of fore and aft sails. I suspect these suggestions are premature. The brig needs more testing before we go to the considerable expense of experimenting with a rig that we know will be more costly.

d. Air Foil Shaped Wing Masts

The wing masts, which are aerodynamically shaped and unstayed, proved very strong, supporting the yards even when braced in close during windward sailing. They house the topmasts and give the vessel a "futuristic" look.

We made one test under wing masts alone in moderate airs. The *Nancy Jack did* sail forward, but made an even greater distance to leeward. Under masts alone she performed like an undercanvased sailboat. In a real blow her sailing characteristics under mast alone might be a real advantage. Under sail the wing masts provided some propulsion assist, but how much remains to be determined.

We discovered one drawback to the wing masts during the trials. Going to windward they created some turbulence on the weather side of the sails which possibly disrupted the smooth flow of air over the lee side. More air movement and turbulence tests will be undertaken in the spring.


©Benjamin Mendlowitz

John Todd

I am concerned about the wing masts. On the high seas during a storm, they could, on the larger vessel, present a large exposed surface to a huge wave breaking over the beam of the ship. With the relatively low freeboard on the *Margaret Mead*, when hit by a wave, the wing mast might act as a lever and knock the ship down.

I am anxious to combine the merits of the existing wing masts with attributes that would minimize the two problems I've just mentioned. Wrapped fiberglass masts, reinforced with carbon fibers might be an effective way to make a much narrower wing mast.

4. *Future Plans for the* Nancy Jack

This winter we will make the changes in the vessel I've already described. We will alter its dagger boards to centerboards and, I expect, install a centerboard amidships so that we have wide underbody variations which are useful in any testing of a new rig. We will install a motor well for an outboard so that the *Nancy Jack* can be motored into open waters for trials. This fall we were hampered by having to sail in and out of a narrow, shallow cove with an ominous rocky lee shore. These hazards so close by combined with an untried vessel and rig made for tense sailing.

After the alterations are completed, a crack test crew will be organized to gain experience with the *Nancy Jack* in a variety of conditions. By next spring we will undertake experiments to pin down her strengths and weaknesses. We will use the knowledge gained to refine her design and subsequently translate the findings into the development of the Ocean Ark, the *Margaret Mead.* ■

Comment on Todd Report

by Philip C. Bolger (designer)

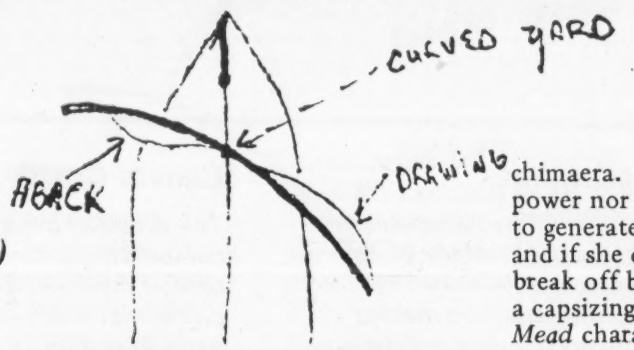
Comments on report of Trials dated 11/8:

1. *Nancy Jack* was designed with considerably less water ballast proportionately than I meant to give *Margaret Mead*, for saving of time, money, and nuisance. There was no serious doubt that the method was workable. Increase would be very desirable, especially if so arranged that new volume could be flooded in two or more separate and controllable tanks, for trim experiments. If cost is within available resources it would be very desirable to have the double bottom extended to the hull sides, to relieve the stress on the chines as initially designed.

2. The stern rudder or any combination of bow and stern rudders will be found as ineffective as the bow rudder alone, the problem being that any rudder is incapable of overcoming the resistance to turning of the adjacent daggerboard. There was never any possibility of a vessel with the designed centerboard arrangement being maneuverable without handling the centerboards. Change to pivoted centerboards in *Nancy Jack* will make such handling much more convenient and ought to make it possible to tack her with good reliability by raising the after board. The function of the rudder, at either end of the vessel, was to make small course corrections. I went to the bow rudder because I though it would be more effective and reliable when running broad off the wind with the bow centerboard fully retracted; I see no reason so far to reconsider this reasoning. Communication, while a problem in *Nancy Jack*, will not be so in *Margaret Mead* which would require intercom headsets for watch-standers in any case. Viewpoint of helmsman will not be a concern to anybody who has sailed in a contemporary ocean racer and watched the helmsman, who never looks aloft because his eyes are glued to the relative wind instruments.

A single centerboard amidships, in conjunction with bow or stern rudder, or both, would obviously greatly enhance maneuvering if correctly located for balance. If both bow and stern rudders are used they should function independently. If a trial of such an arrangement is wanted it could be most quickly and cheaply arranged by the use of makeshift leeboards. It seems to me to be very undesirable to encorach on the cargo area by installation of a large centerboard trunk there, and I have not got a good enough idea of the balance characteristics of the rig yet to decide with assurance where it should go if wanted. I'm also unconvinced that the resulting quick turning is necessary or even desireable. (See conclusion.)

3. An experiment with straight yards



John Todd's slightly exaggerated sketch of curved yards not fully drawing.

would be worth doing as they would be cheaper and otherwise handier if they functioned reasonably well. The curved yards have not had a fair trial so far. The condition shown in the report simply describes them in a luffing condition and it's hardly remarkable that the vessel "slowed dramatically" with the luffs of the sails aback. My impression is that these sails are very sensitive to exact trim re the relative wind and were stalled a good deal of the time they were not aback. The controlling lines were inadequate and badly designed for precise control and it was impossible to properly trim these sails to give any idea of their potential drive. My decision to attempt to dispense with the lower yards was a very bad one and I think in making alterations this winter a high priority would be duplicating the present yards in place of the foot battens (one of which was broken in the trials). A possible economy would be use of straight yards on the feet of the sails with sail attachments only at the clews.

The sail battens seemed to me to perform their function of taming the loose sailcloth *when furled* reasonably well. I'm still in two minds about the relative advantages of furling up or down, but now lean somewhat to furling down to the lower yard. The designed fixed jackstays for the moving yards should be installed in any case.

I still see no case for fore-and-aft sails, a suggestion I consider to be based on a basic fallacy (see conclusion).

The wing masts appear to me to behave about as was to be expected, though producing less thrust with sails lowered than I had hoped; this last may be partly due to crude shaping of the all-important leading edge, and/or to poor selection of basic foil shape and proportions. Turbulence on the weather side of the course leaches was apparent but trials weren't adequate to establish whether it was prohibitive or not. Their advantages at anchor and in tow were dramatically demonstrated in one trial but it may well be that a shorter foil presenting less side area would be practically as effective in this respect. It should be kept in mind that these structures are primarily shrouding for necessary bracing for the masts proper and for the yard cranes; for that purpose the upper after corners could be largely dispensed with, saving considerable high-up wind resistance when broadside.

The "huge wave" scenario is a chimaera. The vessel has neither power nor lateral resistance enough to generate the situation envisaged, and if she did the wing masts would break off before they could generate a capsizing force to a hull of the *Mead* characteristics.

4. I'm steadily uneasy that what I think ought to be the guiding principle of this development will be lost sight of; namely, its origin as a more or less mobile raft. It's my belief that if an even moderately high performance is required, the project will be an economic failure. It should be constantly kept in mind that the high speeds of contemporary cargo carriers are not induced by a need to deliver the cargos quickly, but to increase the number of cargos delivered over the life of the vessel. One way to break out of this vicious cycle may be to utilize the sea time for some time-consuming function that would have to be performed in facilities of comparable cost ashore if they were not being performed in the ship at sea; in this case, to mature the flora and fauna. A second way, which we can develop only to a very limited extent in the project at the immediately realizable scale, I expect the *John Leavitt* to be a moderate success because she performs this last function, though perhaps unwittingly and certainly crudely, and because her master apparently has grasped that he can and must work with the winds and not against them. It's desirable that the *Nancy Jack - Margaret Mead* should have some windward capability for reasons of safety and for occasional convenience, but if she should prove to have yacht-like windward and maneuvering capability, that should be a sign that we ought to look for further simplifications that would reduce investment and running costs at the expense of the superfluous performance. The proposed straight yards may be an example.

I would oppose the proposed outboard motor well in the *Nancy Jack* on the grounds that it suggests a need for auxiliary propulsion in the *Mead* and will tend to build up false assumptions about the way the *Mead* should be handled and routed. The *Nancy Jack* trials can easily be distorted into an attempt to demonstrate that the *Mead* would be suitable for coastwise cargo carrying and the results translated into recommendations for modifications for that purpose. The conception was meant for intercontinental work and is unsuitable for coastwise use. I agreed to advise on this project primarily because I saw no sign that the promoters of the various sailing ship projects grasped what I took to be the basic requirements of the mode with regard to efficient allocation of resources. It seemed to me that their superior technical competence as compared with mine would not produce viable results given the fallacy at the root of their plans. ■

Craft

Fine Woodworking Techniques

Fifty expert articles reprinted from **Fine Woodworking** *magazine make up this handsome book. Many of the subject headings deal with uncommon information. There is, for instance, an extensive article on making furniture that will not shrink apart in a desert climate. Master's secrets such as the art of French Polish are shown in detail. All by pros, for pros, and presented in a first-class manner befitting a tradition of meticulous craftsmanship.* —*J. Baldwin*

Fine Woodworking Techniques
By the editors of Fine Woodworking magazine
1978; 189 pp.
$13.95 postpaid from:

The Taunton Press
52 Church Hill Road
Box 355
Newtown, CT 06470
or Whole Earth

The expansion bit is the wooden screw-maker's cup of tea. It's an inexpensive tool that is continuously adjustable from an inch to more than three inches in diameter. Normal auger bits come in 1/16-inch increments and aren't commonly available larger than an inch and a half. Expansion bits are made for use in the drill press or the hand brace.

The most popular bits for hand use are the Irwin "Micro-dial" and "Lockhead." The adjustment on the "Lock-head" cannot be tightened enough to hold its setting in hardwood; the more expensive "Microdial" locks more securely. Even so, it sometimes slips to a larger size. I find it necessary to grip the drill head in a vise and bear down hard on the screwdriver.

These drills have a spur that tends to bend outward as the drilling progresses. This enlarges the hole and makes it hard to turn the brace. The cure is to file the spur to about half its original length. After the spur has been shortened it must be filed on the inside surface to reduce its thickness and to re-establish a sharp cutting edge at the top. Auger bits seldom arrive sharp enough to make a clean cut in hardwood. It pays to dress the cutter edges with a fine India stone, then an Arkansas slip.

Auger bits will leave a rough exit hole unless you clamp a piece of scrap behind the stock and drill through onto it. I like to clamp a piece of paper between the woods. When paper shavings emerge, the hole is through the stock.

Charolette Ford Trunks catalog

Charolette Ford Trunks, Ltd. in Spearman, Texas offers a multitude of supplies for repairing old trunks. The company sells leather handles in different colors and sizes as well as replacement locks, hinges and other brass fittings. Most items are pictured "actual size" in the free catalog. They will also repair damaged trunks and offer free estimates for such work. —*Marilyn Green*

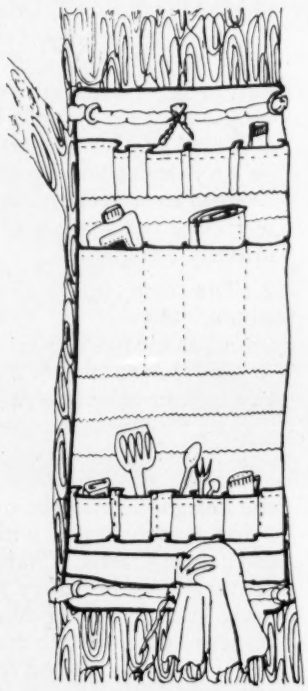
Charolette Ford Trunks, Inc.
Box 536
Spearman, TX 79081

Canvas Craft

This practical book deals with making useful items of durable canvas duck (100% cotton) – a relatively inexpensive material. Dworski's approach, writing only about one fabric, is terrific. She discusses possible problems and perils of sewing on canvas in the finest detail. The book is worthwhile especially for its unusual patterns – included are backpacks, totes, carriers for bicycles and skis, toys, and clothing as well as some canvas shelves and organizers that would be great for space-cramped quarters – on land or water. —*Marilyn Green*

Canvas Craft
(The Homesewer's Guide to Creating Useful and Delightful Objects from a Noble Cloth)
Susan Dworski
1979; 270 pp.
$8.95 postpaid from:

Capra Press
P.O. Box 2068
Santa Barbara, CA 93120
or Whole Earth



ROLL-UP TREE CABINET

As anyone who spends a good deal of time in the outdoors knows; the romance of camping dissipates quickly as the preparation of three meals a day becomes a chore. When our family camps out there always seems to be an incredible amount of miscellaneous cooking supplies and equipment that accumulates. I am usually the one who kicks the margarine into the coals or stabs the Granola bag on a pine branch while grabbing for a towel already alight in the fiery embers. Consequently, the Roll-Up Tree Cabinet was designed, selfishly, for me.

The Roll-Up Tree Cabinet is a sound answer to organizing kitchen supplies in the woods. It is constructed of a flat stretch of canvas with a welter of pockets stitched onto its front. To accomodate a variety of different items, some of the pockets are pleated and some are flat. Grommets at each corner allow rope to pass through and around the tree's girth, wrapping the Cabinet onto the tree. There are no nails to damage the living trunk, food is kept off the ground and away from animals, and the whole thing rolls and stuffs into your knapsack while you are hiking to Shangri-la.

Five Ethnic Patterns

*Highly original approach to design and constructon of clothing, using a carpenter's square instead of a pattern. Results from this book, and her workshops, are outstandingly handsome. [For the relative novice like me, they provide a better fit than the "Folkwear" patterns (***CQ***, summer '76) and more detailed instruction with the same inspiration as* **Cut My Cote** *(***EPILOG***, p. 570).]* —*Diana Sloat*

Five Ethnic Patterns
Yvonne Porcella
1977; 16 pp.

$3.50 postpaid from:

Yvonne Porcella
3619 Shoemake Ave.
Modesto, CA 95351

Health Hazards Manual for Artists

This booklet should be required reading for everyone working in arts and crafts. The burgeoning cottage industry of self-employed artisans is prey to serious occupational disease. I have a friend, a huge, powerful fellow who has worked as a leather craftsman for many years, and helps his wife in her pottery studio. They live on a remote mountain farm in idyllic, unpolluted surroundings. Last year a mysterious ailment left him too weak to do anything. Though he's back on his feet, I'm not sure he ever pinned down the real source of his illness. My wife and I have worked at home, doing silk screen prints, for eight years. While ventilating the hell out of our studio and being careful with our inks and solvents, I found myself developing some disturbing symptoms. Fatigue, occasional blurred vision and numb fingers, irritability, swollen lymph glands, usually transitory and subtle in nature. Queries to suppliers and manufacturers were fruitless; they are either ignorant or reluctant when it comes to informing people of the hazards, and precautions to be taken.

McCann put me on the right track. His description of benzol (benzene), a cheap, highly toxic solvent, can be applied to any of a large number of dusts, fumes, vapors, dyes, pigments, chemicals, and other common materials to which artists and craftspeople are exposed. His book is packed with helpful, often scary information. He gives a thorough run-down of how toxic materials enter and affect the body, with specific examples for the major disciplines. He tells you what precautions to take, symptoms to watch for, and provides a good bibliography for further study. Most important, the reader is instilled with an awareness of the need for extreme caution when working with potentially hazardous materials. I wish I had this book eight years ago. —Richard Pranulis

Health Hazards Manual for Artists
Michael McCann, Ph.D.
1975; 40 pp.

$4 postpaid from:

Center for Occupational Hazards
5 Beekman Street
New York, NY 10038

Almost all organic solvents are poisonous if swallowed or inhaled in sufficient quantity, and most cause dermatitis after sufficient skin contact. High concentrations of most solvents can cause narcosis (dizziness, nausea, fatigue, loss of coordination, coma, etc.). This can increase the chances for mistakes and accidents. Some solvents — for example, benzol (benzene) and carbon tetrachloride — are so toxic that they shouldn't be used. Other solvents — for example, acetone and ethanol (ethyl or grain alcohol) — are reasonably safe.

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Chronic inhalation of sawdust can cause chronic respiratory diseases. In particular, cocobolo, ebony, African mahogany, mansonia, rosewood and satinwood can cause respiratory irritation and allergies. Beech, iroko, Western Red Cedar and teak can cause severe asthma. South American boxwood, cork oak, redwood and some maple sawdusts can cause an acute illness resembling pneumonia. It appears a few hours after exposure with symptoms of shortness of breath, dry coughing, chills, sweating, fever and weight loss. A person with this usually recovers from a first attack without any ill effects, but repeated exposures can cause lung scarring and decreased lung capacity.

•

Photo litho, photo etching and photo silk screening are common techniques today. The greatest hazard in these techniques lies in the widespread use of unvented carbon arcs as a lighting source. Carbon electrodes consist of carbon, tar, pitch, rare earth fillers and a copper coating. When lit, the carbon arc produces toxic carbon monoxide, nitrogen oxides, ozone and toxic metal fumes. The gases and fumes, especially ozone and nitrogen oxides, can cause chronic lung problems, including emphysema after repeated exposure. One problem is that dangerous amounts of fumes can be inhaled without noticeable discomfort. Carbon arcs must be directly vented to the outside by an overhead or canopy hood. In addition, carbon arcs produce large amounts of ultraviolet light which can cause severe eye damage if UV-absorbing goggles or hand shields are not used. Walls should be painted with UV-absorbing zinc oxide paint to reduce reflection of UV light.

•

In general, solvents are one of the most underrated hazards in art. They are used for a million purposes: to dissolve and mix with oils, resins, varnishes, inks; to remove paint, varnish, lacquers; to clean brushes, tools, silk screens, and even hands. As a result, artists are continually being exposed to solvents.

Other craft hazard material

From the same place as the **Health Hazards Manual for Artists** *you can get* **Art Hazard News**. *Also a Delaware publication,* **The Crafts Report** *has an excellent series, "Protecting Your Health," by Gail Barazani.*

—Richard Pranudis

Art Hazard News
$10 /yr (10 issues) from:

Center for Occupational Hazards
5 Beekman Street
New York, NY 10038

The Crafts Report
$13.50/yr (11 issues) from:

700 Orange Street
Wilmington, DE 19801

Goodfellow Review of Crafts

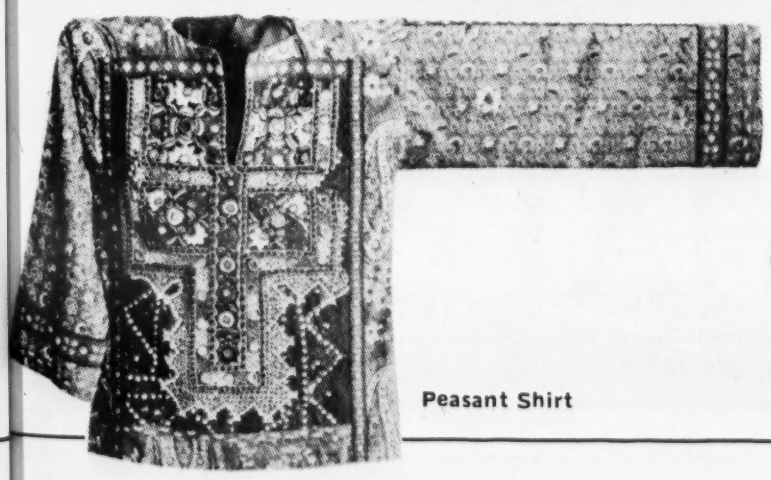
Goodfellow Review of Crafts *is aimed at craftspeople interested in marketing their goods. Each issue contains a nationwide listing of craft fairs with information on how to participate in each. I also found the column called "For Immediate Release" quite useful. It's full of information on everything from health hazards of various materials to information on insurance for artists. The periodical also offers reasonable classified advertising space to craftspeople — 15 cents per word. —Marilyn Green*

Goodfellow Review of Crafts

$8 /12 issues (bimonthly; $10/12 issues in Mexico) from:

The Goodfellow Catalog of Wonderful Things
2839 Forest Avenue
Berkeley, CA 94705

If you don't know where to obtain approved safety equipment for your work, write the newly-formed **Art Hazards Supply Company**, Route 1, Box 87-A, Blue Mounds, WI 53517 with a SASE for a copy of their catalog. In addition to equipment, such as respirators, gloves, goggles and welding shields, they also carry pamphlets and a wall chart on arts and crafts hazards.



Peasant Shirt

HOW MODERN HOSPITALS GOT THAT WAY

by Roslyn Lindheim

The very first requirement in a hospital is that it should do no harm. –Florence Nightingale

The adjectives used to describe hospitals include dehumanizing, depersonalizing, neutering, frightening, uncaring. I have never heard anyone describe a hospital as beautiful, peaceful, healing, warm, joyous.

This article is an attempt to capsulize 2000 years of hospital history into a few pages and pictures. It is the result of a series of talks on the architecture of hospitals given in an effort to understand why the image and the reality of the hospital are so far apart.

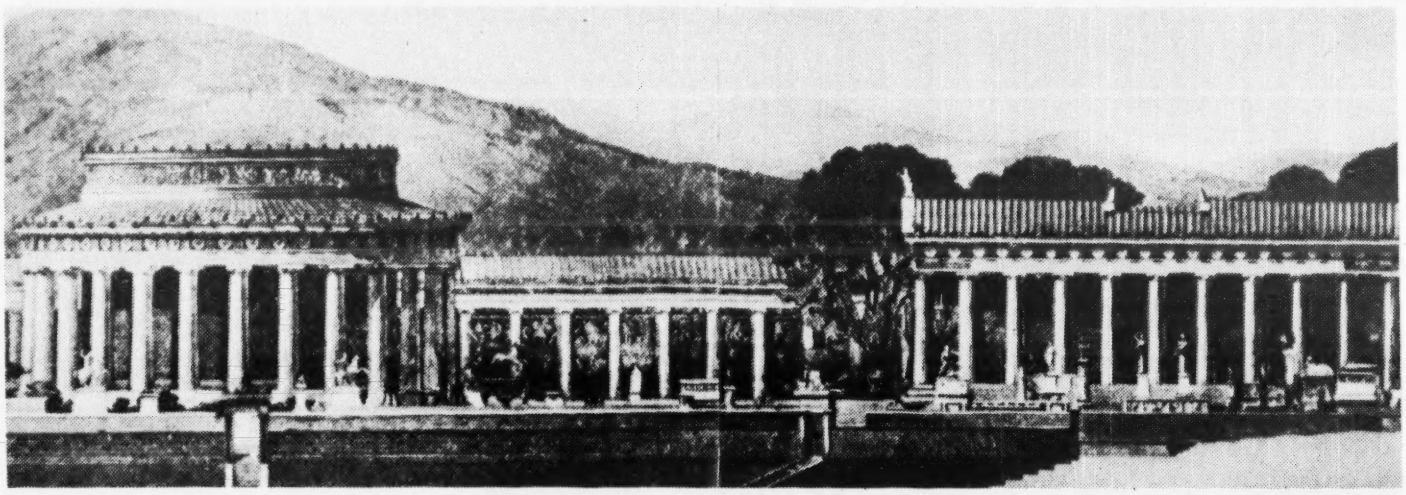
Many people are questioning the medical effectiveness of much of what is done in hospitals and point to the unnecessary surgery, the overuse of diagnostic facilities, the hazards of iatrogenesis (medically induced illness), and the astronomical costs – over 40 per cent of the U.S. health budget. Indeed a look at the modern hospital speaks not of human healing but of awe of technological progress, not of caring but of increase in the G.N.P., not of generating health but of saving jobs and institutions.

Despite this, the belief in hospitals is strong today. There is no awareness that until seventy years ago no one with any class or clout voluntarily went to a hospital. It was a place of disposal and death, not cure. It is only since the early part of the 20th century that once in a hospital one had better than a fifty-fifty chance of survival. But even with these new odds we know that our better health is due not to the medicine of hospitals but to better food and sanitation. The question is, where do we want to put our resources? How do we want to be cared for at birth, when sick, when old, and when dying?

Every day we read of more things that make us sick. Radiation in the air, poison in the water, food-anxiety, tension, frustration, loneliness, automobile accidents, asbestos, all producing sickness – and every day on the next column we read of the crisis in medical care, the high costs, the lack of access. It's like firemen setting fires so they can use modern technology to effectively put them out.

The problem – the catch 22 – is trying to develop a rational approach to the design and operation of hospitals within the context of an irrational society. I thought that a sketch of the background, of the reasons and rationales that preceded this generation of hospitals might help us better grasp the issues of today.

A friend and colleague of Ivan Illich, Roslyn Lindheim is a Professor of Architecture at the University of California, Berkeley. Among her recent activities is setting her students loose in the South Oakland ghetto to find out what the people living there know of medical services available to them and how they find out. A major source is unused parking lots, where the locals hang out in their cars and gossip.
–SB

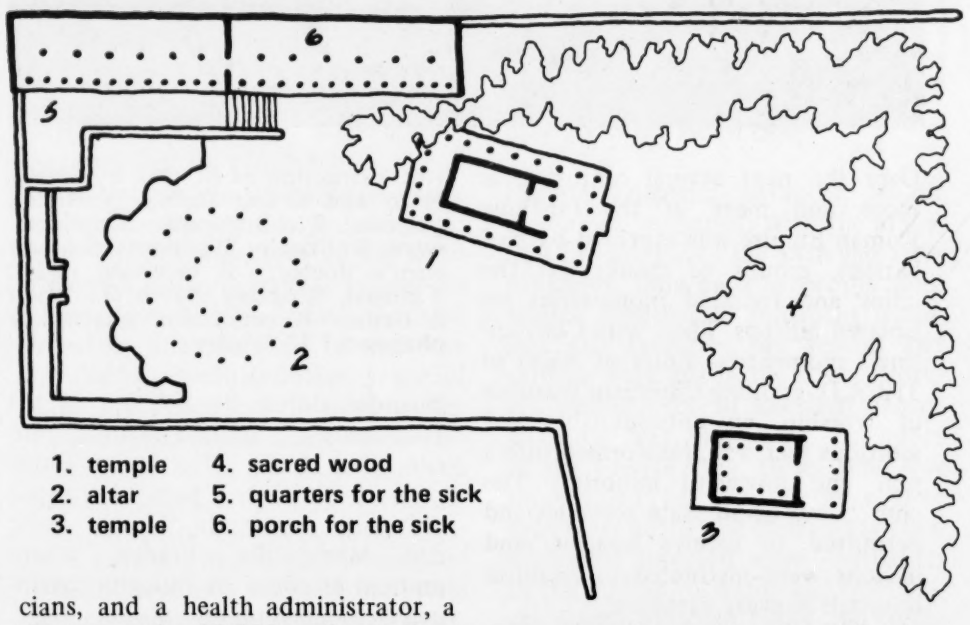


History of Medicine

BEGINNINGS

The earliest hospitals were the healing temples of ancient Egypt, the public hospitals of Buddhist India and the Moslem East, and the hot houses for the sick of Israel. Ancient oriental houses were built for weary travelers, and the words "hospital," "hostel," and "hotel" came to be used interchangeably.

In the western world, we go back to Greece, where medicine and healing were linked to the gods, and sickness was explained as being out of harmony with nature. The Greeks did not have hospitals; they had healing temples, combination shrines and health spas, where healthy diet, exercise and being surrounded with art, music and sculpture were believed to help the sick achieve harmony of mind and body. Patients donned white robes and were induced to sleep; for cure, temple priests then interpreted their dreams. Buildings were carefully oriented toward the sun, toward prevailing breezes, to be harmonious with their natural settings. Accommodations were elaborate. The healing temple of **Asclepius at Epidaurus (above)**, about thirty miles outside of Athens, contained library, baths, rooms for both visitors and patients, houses for priests, phvsicians, and a health administrator, a theater seating 12,000, and a stadium for 20,000.

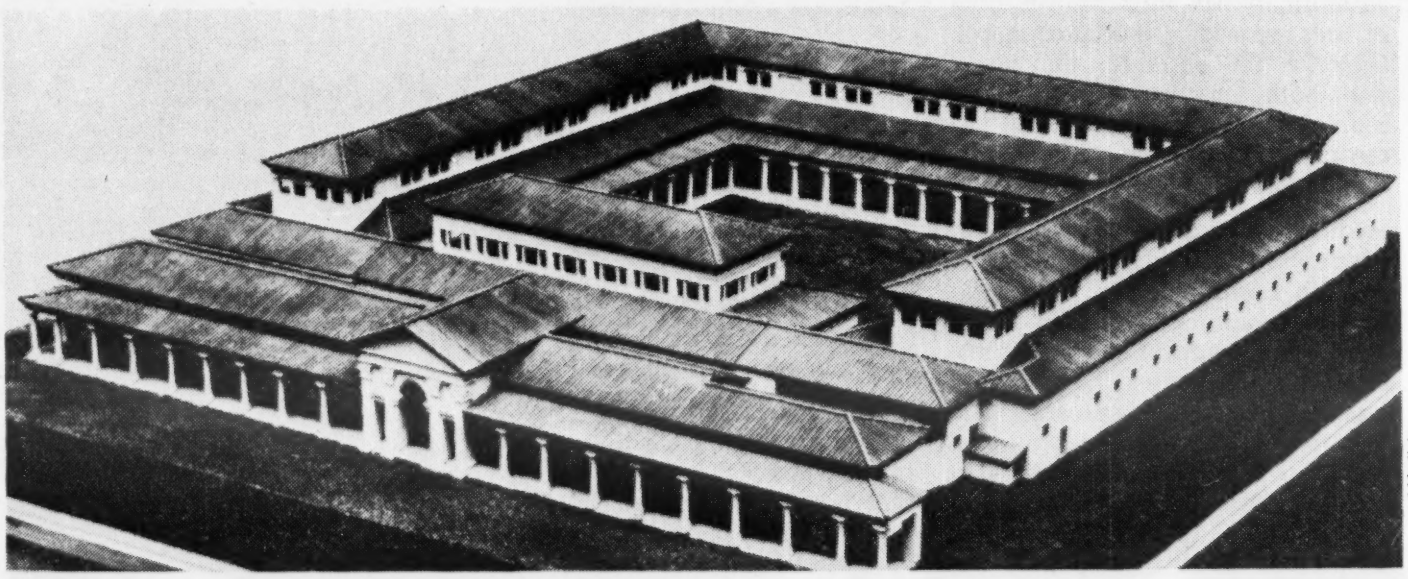


1. temple
2. altar
3. temple
4. sacred wood
5. quarters for the sick
6. porch for the sick

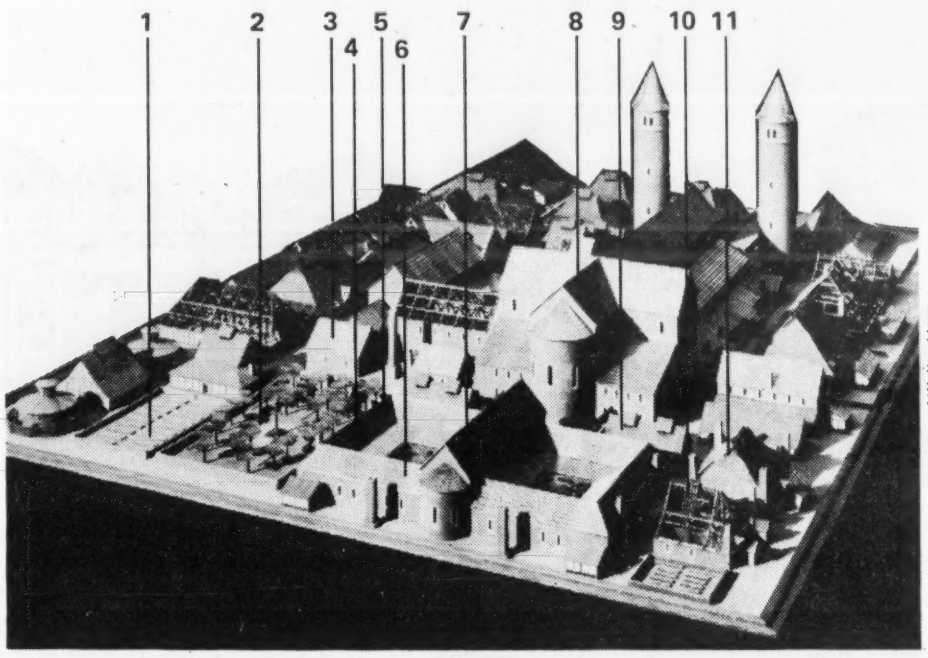
Reconstruction and plan of the temple of Asclepius at Epidauros.

The Roman Empire contributed two legacies to the history of hospitals: establishment of military hospitals to return the wounded back to battle, and establishment of municipal hospitals and clinics to care for sick slaves who would either be restored for more work or disposed of if incurable. Though the Romans drew on Greek healing traditions, their belief in the curing powers of the temples diminished; many were converted to other uses. The military hospitals, called **Valetudinariums (below)** were erected in all garrisons along the frontiers. Restorations of these buildings reveal army barrack forms arranged around a courtyard with accommodations for three to a room. The buildings were symmetrical in plan, of simple wood construction, with no attention paid to orientation.

Model of a Roman Valetudinarium constructed by R. Schultze, Rheinische Landesmuseum, Bonn.



History of Medicine



Schnolz and Ullrich, courtesy of Walter Horn

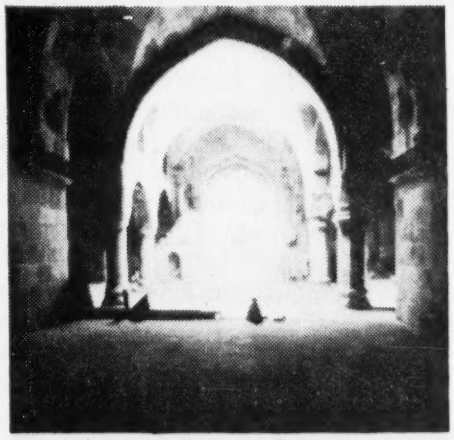
Reconstruction of St. Gall by Walter Horn and Ernest Born. 1 Herbal gardens; 2 churchyard; 3 patients' ward; 4 critically ill patients; 5 supervisor's doctor; 6 receiving room; 7 chapel; 8 Abbey church; 9 kitchen & baths; 10 physicians' quarters & pharmacy; 11 surgery.

Over the next several centuries, as more and more of the far-flung Roman Empire was captured by barbarians, groups of monks left the cities and founded monasteries on isolated hilltops. Then, with Constantine's momentous Edict of Milan in 313 A.D. granting Christians freedom of worship, an unfashionable and seditious sect was transformed into a rich and powerful minority. The church was given state revenues and permitted to receive legacies, and bishops were instructed to establish hospitals in every cathedral.

In both municipal and monastic settings, genuine and effective caring was provided, the primary motivation being personal salvation. Early Christians believed it their duty in the service of God to care for the poor and the sick in order to avoid suffering and to obtain sanctity.

The first church hospitals were infirmaries for the monks themselves. The Roman basilica form previously adapted to the church was now adapted to cathedral and monastic hospitals **(see Medieval hospital at St. Gall, above)**; the central nave became an infirmary hall with two side aisles of beds proceeding to altar or chapel. Opposite the entrance, the chapel was both observation point and source of therapy; it remained the central focal point, the place for prayer and primitive healing treatment.

Medical practices were also being advanced in the Middle East. Around the 9th century, Persian shahs and caliphs sponsored development of elaborately beautiful hospitals in the larger cities including Baghdad, Damascus, and Jerusalem. Most influential was the hospital and medical school at Jundisapur. In contrast to the two-class system developing in Europe, these facilities were open to persons of all creeds, races and financial status. By the end of the 10th century, Islamic medical care exerted a strong influence on European institutions, particularly the university centers in Salerno, Italy, and Montpellier, France, where unusual freedom of thought continued to modern times.



Islamic Science

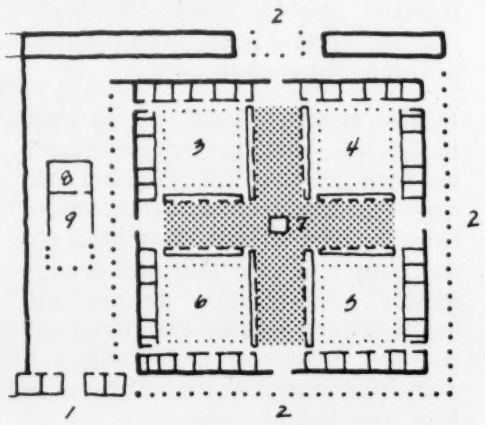
Interior of a Seljuk hospital.

In Europe, the humanist movement of the Renaissance gradually became a weapon of the rising bourgeoisie against the old, aristocratic, ecclesiastic social order of the Middle Ages. The corruption of the medieval church as it gained land, wealth and power helped to sow the seeds of its own decline. Lewis Mumford described the transition as "religion giving way to commerce, faith to credit."

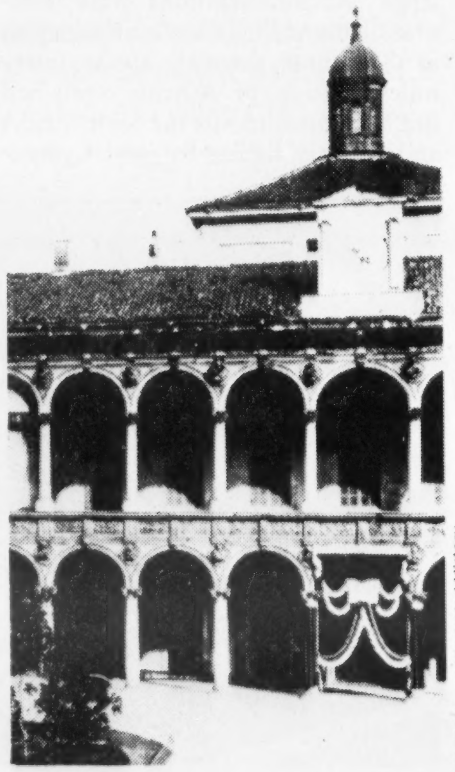
The plague hit Europe in 1348. No one, not clergy, hospital or noble, had the power or knowledge to intervene medically or spiritually. By the end, 40 percent of the European population had died.

In the social disorder following the plague, church credibility was reduced, and universities replaced the tight monastic control of medical knowledge. Hospitals rapidly came under secular control, although many were still run by religious orders. Within the hospital, the chapel ceased to occupy a primary position and administrative quarters expanded to assume an equal share of space. Renaissance architects continued to believe in the existence of a supreme model, but they believed it would be revealed through the study of the human body rather than God. A theory developed that circle and square were embodiments of divine form. In response, buildings were both symmetrical, like the human body, and composed of square and circular shapes.

Under municipal control, hospital exteriors came to resemble palaces and city halls **(below)**.



Plan of Ospedale Maggiore, Milan, Italy, designed by Filaretti in 1605. 1 main entrance; 2 portico; 3 - 6 men's, women's, servants', and officials' courtyards; 7 high altar; 8 mortuary; 9 chapel of the annunciation. Courtyard of the Ospedale Maggiore.



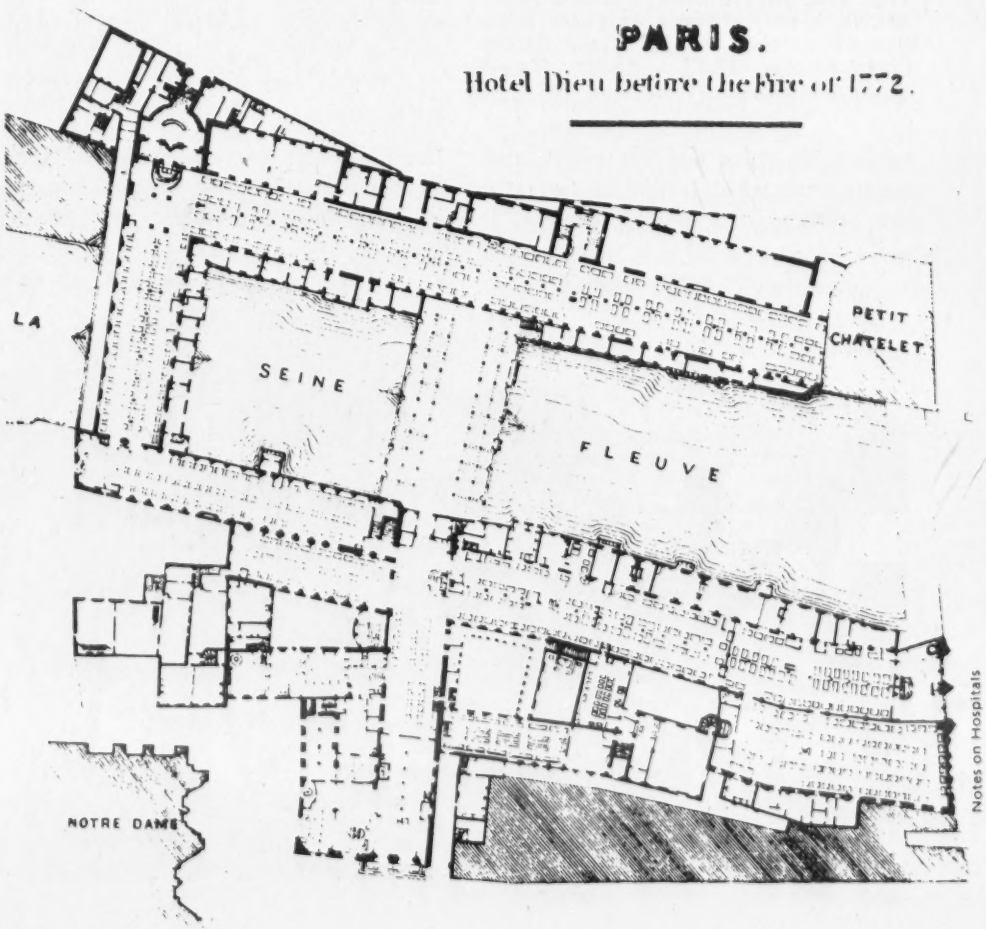
Medicine, an Illustrated History

But internal conditions grew worse with the crowding and illnesses of growing urban populations. The **Hotel Dieu (right, and below)**, built in Paris in 829 (and still surviving today after many reconstructions), had two patients to a bed and a reported death rate of 25 percent for patients and 6 and 12 percent for surgeons and attendants. Patients so exceeded numbers of beds that forms were provided on which those waiting turn on a straw mattress could wait.

Expansion of mechanical knowledge and trade, together with the continuing growth of cities and demise of absolute church power, helped to stimulate a period of scientific investigation during the 16th and 17th centuries. Artists were the first to defy church prohibitions against dissections of the human body; Leonardo da Vinci and Michelangelo both worked by candlelight performing dissections in the morgue. Physicians, who during this period shared guild membership with artists, soon followed suit, dissecting bodies to study and classify disease. Andreas Vesalius, one professor of anatomy in Padua, conducted five years of extensive dissections to produce the *Tabulae Anatomica de Humanis Corporis Fabrica*, seven illustrated volumes which greatly expanded available scientific knowledge **(left).** The new scientific movements interpreted the universe as a mechanical system and conceptualized man as a machine.

Interior of the Hotel Dieu.

Despite scientific advances, health conditions worsened. With the industrial production of the 18th and 19th centuries, thousands of people were herded together in tenement dwellings and factories, raw sewage and garbage were left in the street, workers' wages were so low that decent nutrition was impossible. On order of the French king, Hotel Dieu was investigated in 1777; reports were even more horrifying than earlier ones, describing infected straw mattresses in the middle of wards and newcomers placed between filthy and dying patients sometimes six to a bed.



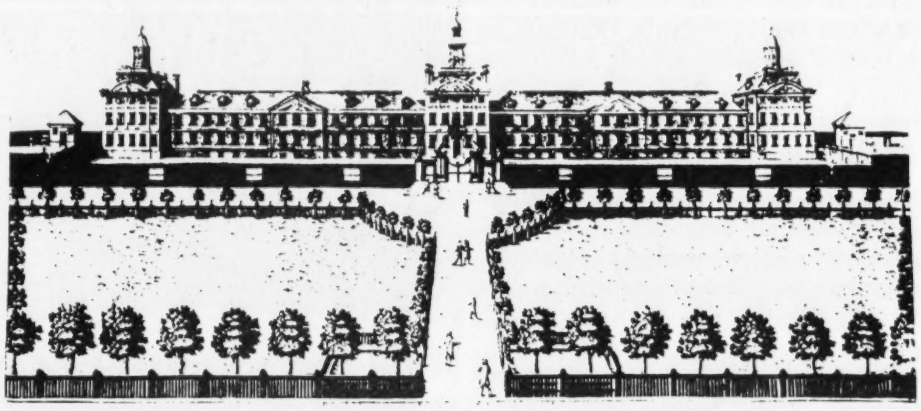
Medicine, an Illustrated History

Notes on Hospitals

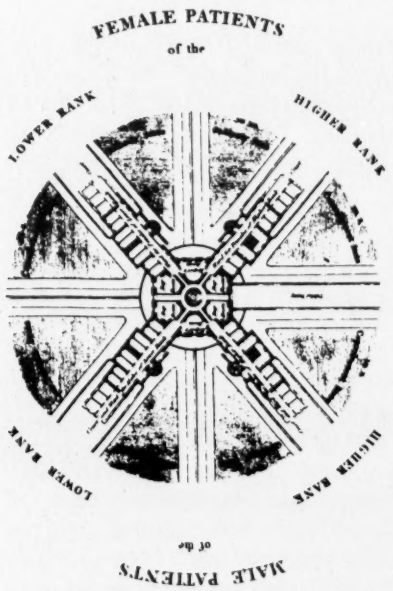
Nowhere were conditions worse than in the insane asylum. In the Lunatics Tower of Vienna, at **Bedlam Hospital** in London **(right)**, at Pennsylvania Hospital in Philadelphia, the insane were locked in cage-like rooms and placed on display for the amusement of visitors.

Architecturally, plans for the reformed insane asylum of the 19th century were virtually interchangeable with plans for hospitals and prisons of that time. The similar solutions were derived from the same definition of the architectural problem; namely, how to house a maximum number of persons with a minimum amount of supervision.

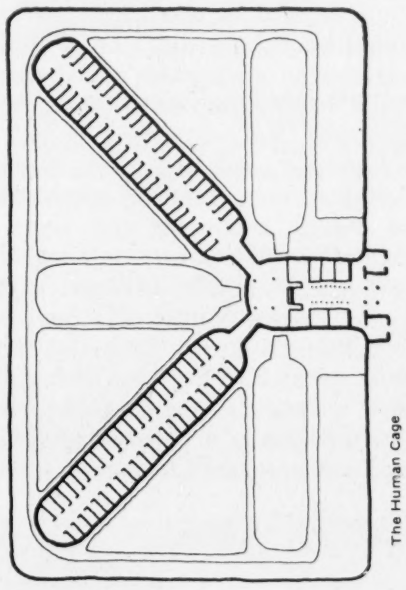
In fact, I recently looked at plans for a hospital of the 1970s, an 18th century prison and an early 19th century



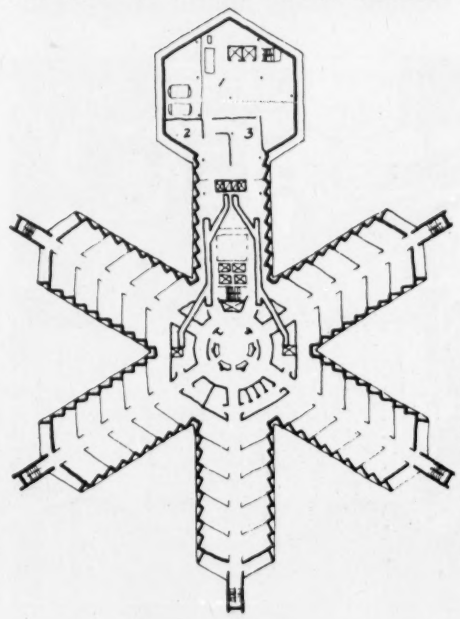
Hospitals: a Social & Architectural History



Hospitals: a Social & Architectural History



The Human Cage



Progressive Architecture

Top: Bedlam Hospital, London 1676. Above, l. to r., Insane Assylum, Glasgow, Scotland, 1810; New Jersey State Prison, 1833 - 1836; Beloit General Hospital, Wisconsin, 1972.

asylum; all three had central control points with wards radiating outward like spokes of a wheel **(above)**. It should not be too surprising that many of the modern architectural offices which specialize in hospital design and construction also specialize in prisons.

Despite their awful conditions **(below)**, hospitals increased prodigiously, offering the only refuge for tens of thousands of peasants streaming into the cities. What had been a custodial facility serving primarily to maintain the social order by cheaply housing the poor sick became a research institution. The knowledge to study tissues and disease was now combined with limitless numbers of patients on whom to practice, teach and learn. Erwin Ackerknecht, a leading medical historian wrote, "The crowded hospital offered unprecedented material for clinical observation and for autopsies **(right)**. No difficulties stood in the way of securing autopsy permits in the case of these socially uprooted masses." It became the practice in some cities for the rich to subsidize the hospitalized poor, the motive being to save oneself by paying for the discovery of new cures.

Medicine, an Illustrated History

Conditions at Bellevue Hospital, New York, as depicted in *Harper's* magazine, 1860.

REFORMS

In the late 1800s, the worst hospital conditions were dramatically improved through the efforts of Florence

Nightingale. Sent to the British Army Hospital at **Scutari, Turkey (below)**, shortly after the outbreak of the Crimean War in 1854, she found the huge, converted Turkish barracks to be filthy and overcrowded, with no proper drainage or hot water. The hospital accommodated 2500 patients and had a mortality rate of over 42 percent.

Complaints and Disorders

In the opening statement of her book, *Notes on Hospitals*, completed in 1858, Nightingale wrote, "The very first requirement in a hospital is that it should do no harm." She cleaned and aired the wards at Scutari, and by the time she left, the mortality rate was 2 percent.

A sanitary movement had already begun to take hold in France and England with growing public pressure to clean up the cities and purify the water systems, as well as the hospitals. Investigations of Hotel Dieu and other institutions had resulted in the completion, in 1846, of a model French facility, **Hospital Lari-**

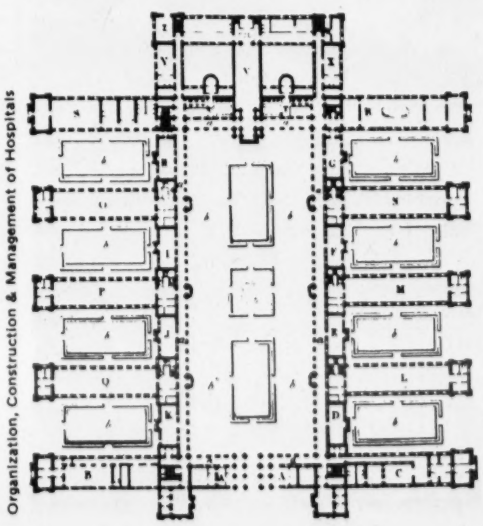
boisiere (below left) which had a series of wards restricted to no more than 30 beds apiece. With these major influences, Nightingale established strict criteria for cleanliness which led to the creation of the now famous Nightingale wards, visible today in many operating U.S. hospitals. The traditional hospital plan was divided up into a number of separate pavilions connected to each other by light, airy corridors. Each pavilion was to house no more than 32 patients and have windows along both sides in order to maximize external ventilation and sunlight and to facilitate supervision **(below right)**.

Specifying room sizes, Nightingale wrote:

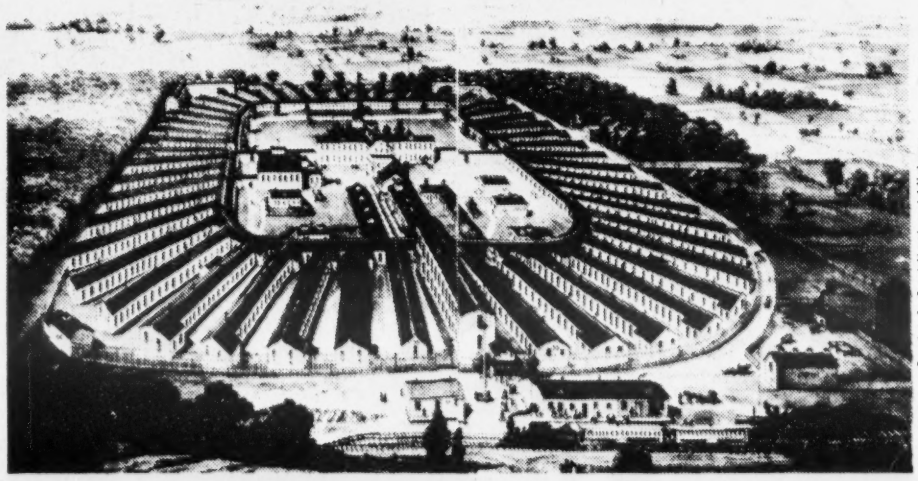
It does not appear as if the air could be thoroughly changed, if a distance of more than thirty feet intervenes between the opposite windows: if, in other words, the ward is more than thirty feet wide. This is the true starting point from which to determine the size of your ward, and number of beds you will have in it. If you make your length too great in proportion to this width, your ward becomes a tunnel – a form fatal to good ventilation. This was the case with the great corridor wards at Scutari.

The perennial need to restore soldiers to battle continued to be influential in the development of temporary European and American military hospitals, and they, in turn, influenced the more permanent large teaching institutions. John Pringle, Surgeon General of the British Army during the 18th century, proclaimed hospitals the chief cause of mortality among soldiers and advised that the sick should not be sent to one common facility. With Nightingale's ad-

Hospital Lariboisiere, Paris, 1846-54 (left), and Mower General Hospital, Philadelphia, 1865.



Organization, Construction & Management of Hospitals



Hospitals: a Social & Architectural History

vice, the one-story barrack hospitals designed for British troops during the Crimean War were adapted for use in the U.S. Civil War **(right)**.

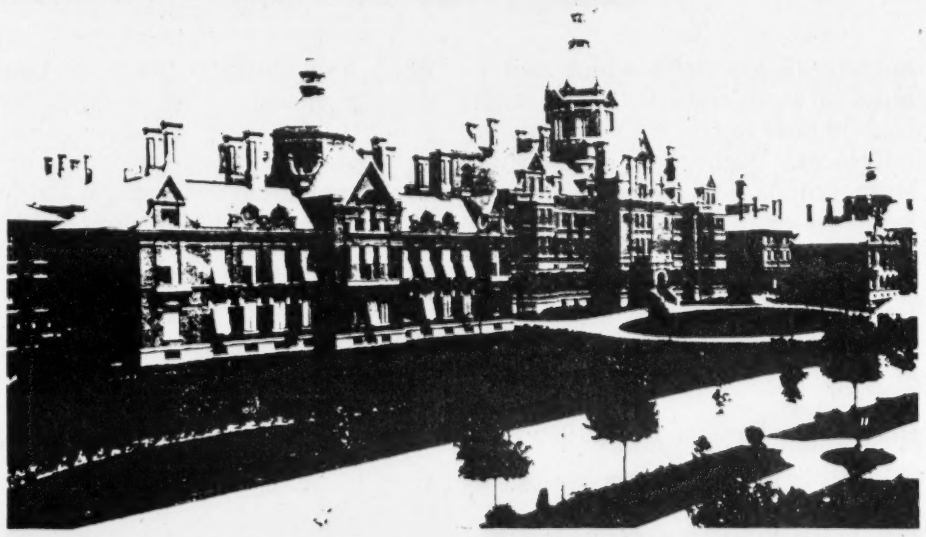
THE ERA OF TECHNOLOGICAL MEDICINE

American medical science achieved a firm foothold with the opening of the Johns Hopkins Medical School in Baltimore, modeled after European schools which placed great emphasis on medical sciences research. Donating money for both university and hospital, Johns Hopkins, a wealthy Baltimore magnate, instructed the board of trustees to consult the best sources available. On request, five physicians submitted specific plans, and indicative of continuing military influence, the one selected was proposed by Dr. John S. Billings, Assistant Surgeon of the United States Army. Incorporating ideas from the other four plans, the final design was a series of Nightingale-style wards linked by corridors. Included were separate paying accommodations for men and women, surgery unit, dispensary, and morgue.

Construction of Hopkins also marked the fast rising influence of corporate wealth on American medical care. In an effort to control medical care and to promote what they believed to be reasonable and rational medicine, the large, private U.S. foundations began to pour money into organized hospital facilities of which **Johns Hopkins (right)** was the prototype. The effect was to do away with the wide variety of herbal and home remedies and preventive health measures then in use and to usher in an era of technological treatment of illness with payment mechanisms and patient populations to support it.

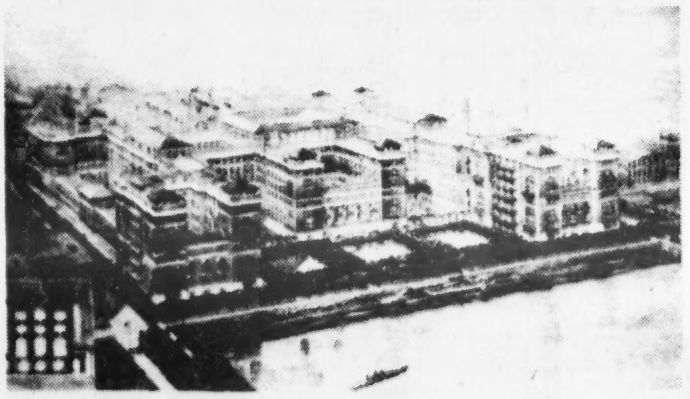
Following World War I, with the advent of the elevator in the 1920s and with increasing urban densities, the Nightingale wards began to be built up vertically. Two examples of this construction still standing are **San Francisco General Hospital (below)** and **Bellevue Hospital in New York (below, right).**

(Above) Portable barracks and field hospital, American Civil War; Johns Hopkins Hospital (below).



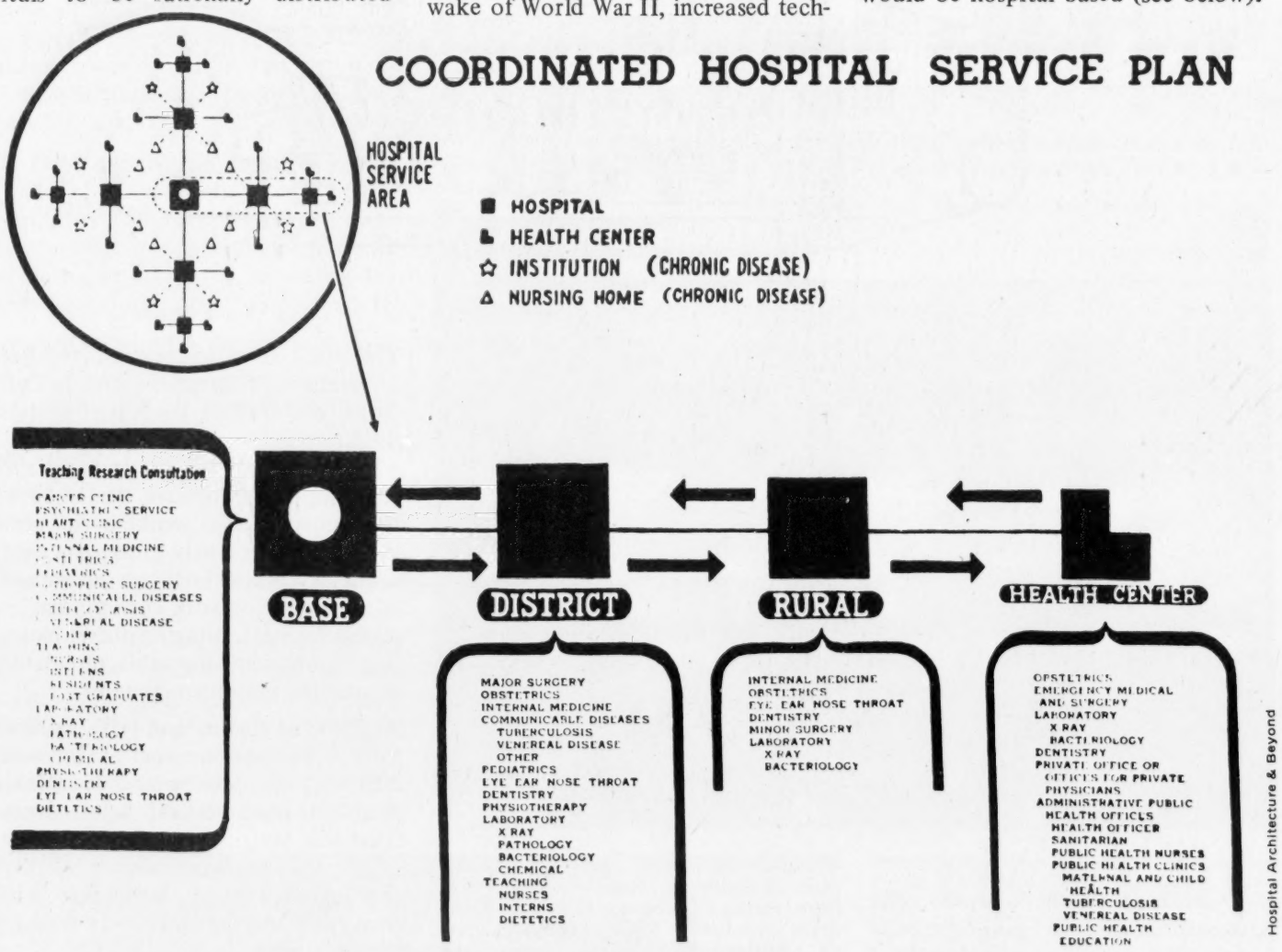
Hospitals: a Social & Architectural History

San Francisco General Hospital



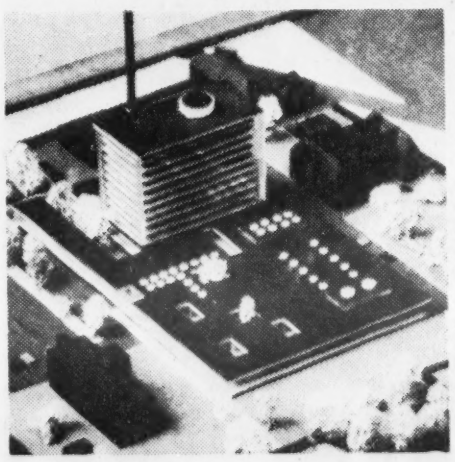
In 1927 there was already a "medical crisis." A Committee on the Costs of Medical Care was formed with a million dollar research fund provided by eight foundations. The committee's findings, published in 1932, documented the lack of available care for lower income families and recommended major changes: reorganization of medical care into group practices; development of more hospitals to be rationally distributed where needed; voluntary insurance plans to spread the uneven financial risk; coordination of care by government with medical schools and hospitals at the center of the system.

Fourteen years later, with the support of the American Medical Association, an enduring loose coalition of health interests won passage of the 1946 Hospital Survey and Construction Act known as Hill-Burton. In the wake of World War II, increased technological innovations in medical practices and facilities led to development of the X-ray, the advanced laboratories, surgery. The little black bag was no longer a sufficient medical tool. The Hill-Burton program which allocated funds to develop standardized hospitals of 50, 100, and 200 beds throughout the United States now made it possible and inevitable that the practice of the modern physician would be hospital based **(see below).**



Hospital Architecture & Beyond

Parallel to the development of technological medicine was the development of new building technology; air conditioning, for example, now made possible the construction of large, windowless, interior spaces which in turn led to the development of double corridor plans with a central artificially ventilated central core. The model hospital form which evolved from the Hill-Burton regulations came to be known as the "matchbox on a muffin pan" **(below left)**. In the base, easily expandable and accessible to both inpatients and outpatients, were diagnostic and therapeutic facilities, X-ray and surgery units, and administration; in the matchbox tower were the beds; and linking both was a central core for efficient vertical transfer of all people and material.

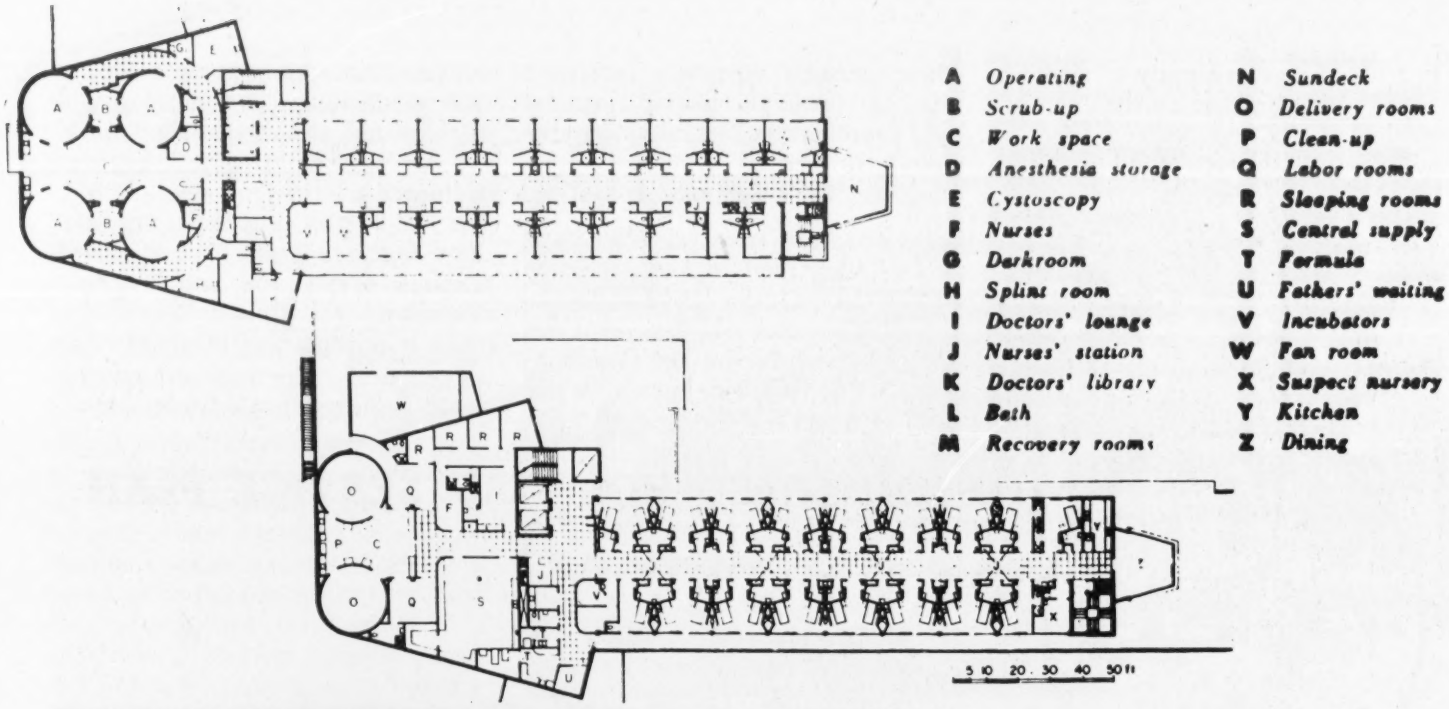


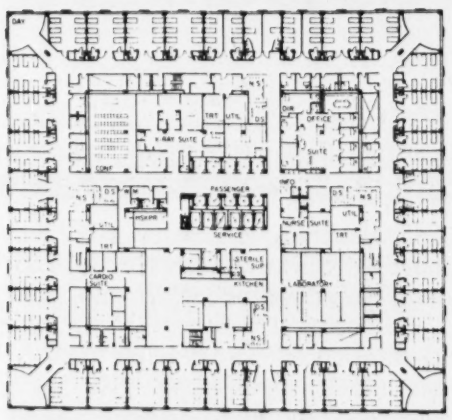
Matchbox on a muffin pan.

An emphasis on efficient operation, also a legacy from World War II, now gave rise to the worship of labor saving devices, centralization, growth and giantism as values in themselves. The leading proponent of new labor saving devices was a hospital consultant named Gordon Friesen; each year, there was a new Friesen Plan which rendered last year's plan obsolete. It seemed as if the hospital had adopted a policy of built-in obsolescence similar to that of the automobile industry.

For architects, efficiency was measured in terms of distance. An efficient design was one which minimzed the amount of walking for staff, the assumption being that saving doctors' and nurses' time would give them more time to care for patients. Codes were subsequently developed specifying various allowable distances within hospitals. It was determined, for instance, that the distance from the last patient's door to the nurses station could be no more than 100 feet.

A few years later, the Yale Index was created which measured the cumulative distance walked by a nursing staff on one shift. No one has ever demonstrated that reduction of walking distance for staff has any measurable influence on better patient care; actually, it was merely something we could easily measure and record in standardized tables.





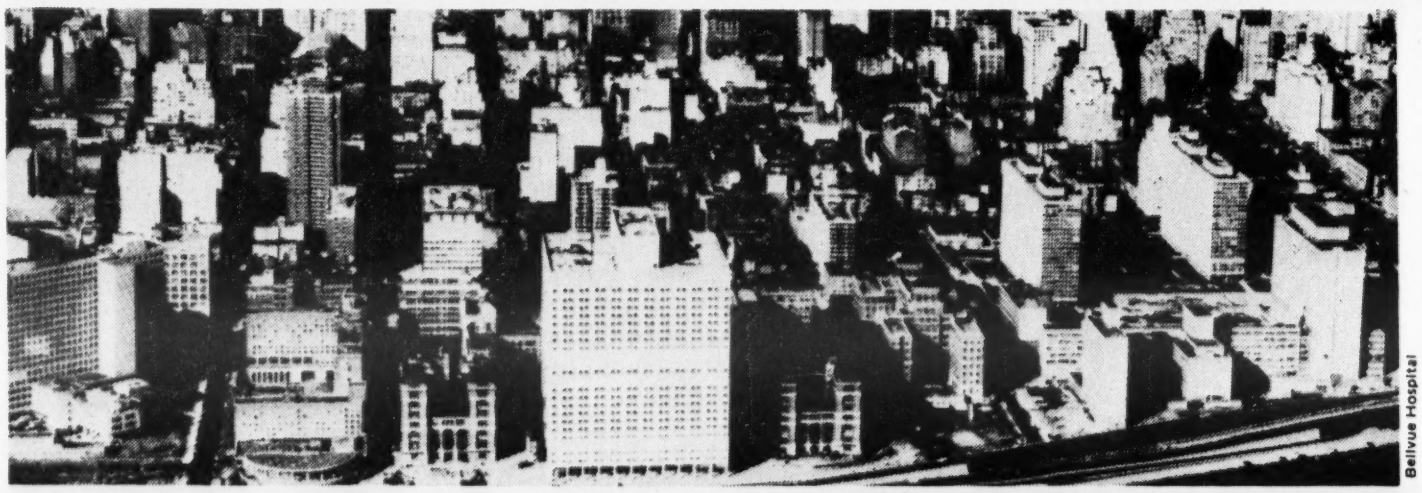
Architectural Record

(Above) the work corridor. (Left) plan of Bellevue Hospital, New York, Pomerance, Biences, Katz & Wiesman architects, 1964; (below) view of Bellevue Hospital from the East River.

The push for efficiency also resulted in several new hospital plans. In California and Hawaii, the Kaiser System of clinics and hospitals was developed which established a prepayment system for comprehensive health benefits, encouraging workers to seek earlier and less costly preventive care; in the new **Kaiser hospitals (above and left),** an interior work corridor was reserved for staff, bringing nurses closer to patients, while the public circulated around the building perimeter.

At **Bellevue (below and left),** in New York, the notion was to increase efficiency by developing a total hospital on each vertical layer; every floor was designed to contain its own supporting services except surgery and included X-ray, laboratory, kitchen, and administration as well as patient rooms.

With this overriding emphasis on technology and efficiency, the more important concerns of personalized patient care were overlooked. As hospital facilities grew larger and postwar medical technology continued, the paramount architectural issue was not the most caring way to accommodate the needs of the sick but how



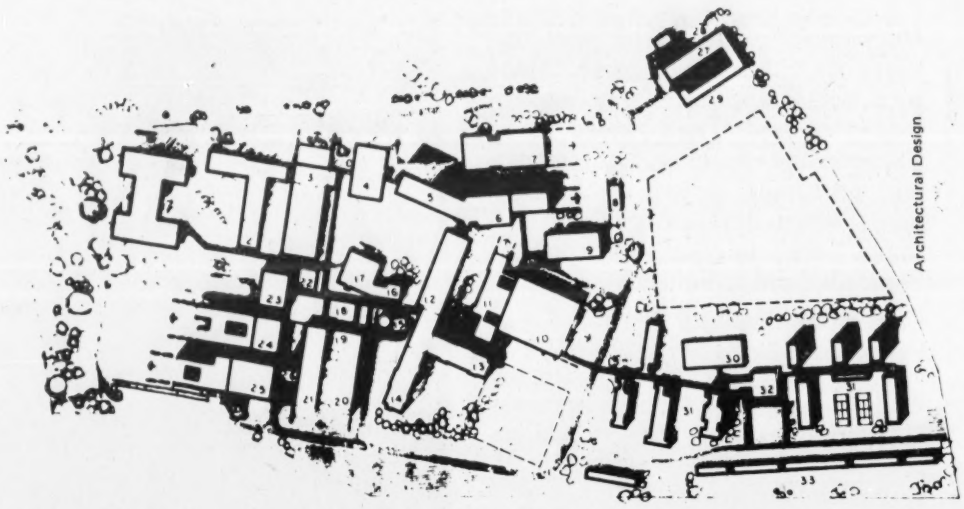
Bellvue Hospital

to build flexible forms to house constantly changing technology. Very often, it took five years from the start of hospital planning to functional operation. The facility was obsolete when it opened its doors. Around the world, architects worked to develop systems to plan these hospitals more effectively and more efficiently. One British architect, John Weeks, developed what he called "indeterminate hospital structure"; essentially a spine with additive wings **(right)**, the hospital shell could be erected before planning was complete; once in operation, individual departments could be changed and expanded indefinitely.

In Philadelphia, the great American architect, Louis Kahn, developed a laboratory where mechanical facilities could be continually rearranged without disturbing or restricting usable laboratory space.

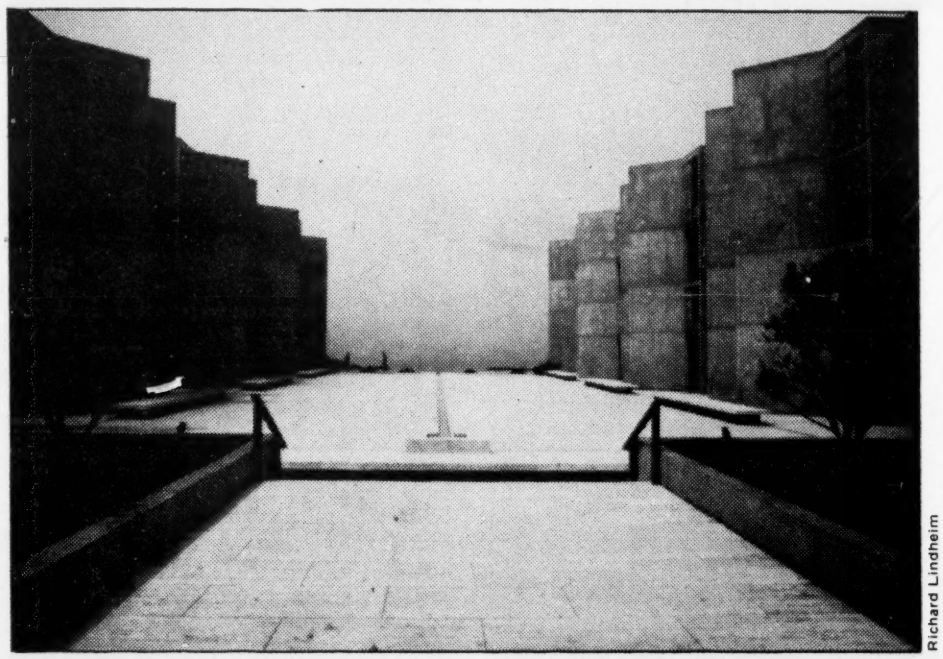
Applied to hospitals and research facilities, this concept allowed for unlimited adaptation to changing mechanical technology and changing bed or lab needs. One elegant example of Kahn's work is the **Salk Institute** in San Diego **(right)**.

Kahn's ideas led to the concept of "interstitial space" – entire, separate mechanical floors that were alternated with working floors, and allowed for easy accommodation of constantly changing medical equipment **(below)**. This acceptance of constant change in medical equipment has resulted in a medical arms race and skyrocketing costs which threatens

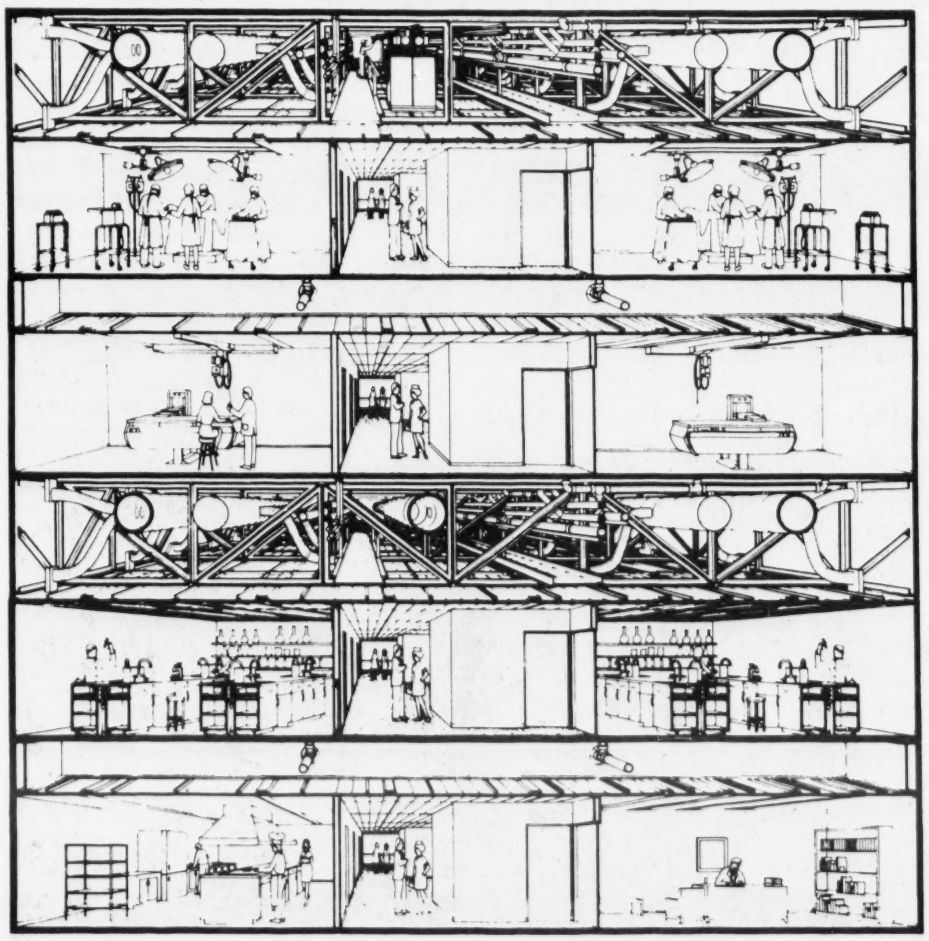


Architectural Design

(Above) plan of Northwick Park Hospital & Clinical Research Center on outskirts of London, Architects Llewelyn-Davies, Weeks, Forestier, Walker & Bor.



Richard Lindheim



to price medicine out of reach of most people.

With the advent of Medicare and Medicaid in 1965, reimbursement rates favored development of increasingly more complicated treatments and institutions to house them. Studies preceding the Hill-Burton legislation had anticipated and recommended decentralized medical care in a so-called "coordinated hospital system." Ideally, there would be one large, central hospital and teaching center, several secondary district hospitals, and many small neighborhood clinics providing people with primary care near their homes. Instead, in larger cities, medical facilities began to cluster around more expensive, complex services, and we began to have "Pill Hills" depleting the rest of the city and the outlying areas of available medical care. Instead of a "coordinated medical system" the larger more technological hospitals absorbed the smaller ones and resulted in institutions of enormous size, confusion and complexity.

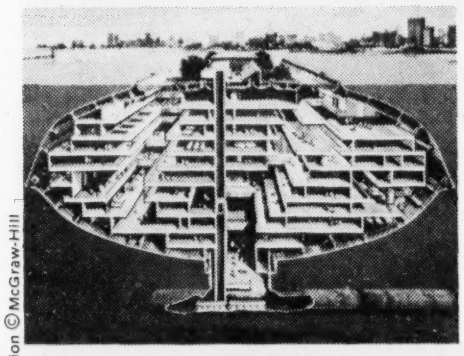
Section through Sacred Heart General Hospital, Eugene, Oregon. Architect Rex Allen.

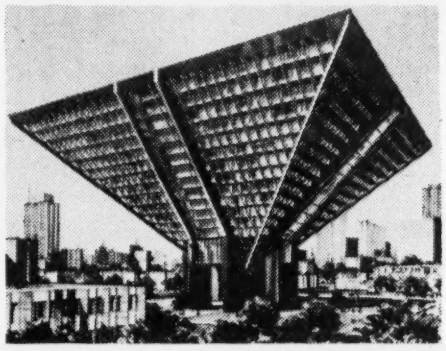
Unfortunately, over the past ten years, architectural response to the increasing giantism of the modern medical complex had tended to be cosmetic and visionary, accommodating mechanical rather than human needs. When staff and patients have found the hospital environment oppressive and inhumane, floors have been carpeted, walls painted bright colors, super graphics added, but nothing fundamentally changed **(right)**. While such cosmetic improvements are important, they fail to address problems of scale or to facilitate personalized patient care.

An alternative architectural response has been to conceive visionary designs and to build new, impersonal structures, anticipating "space age" medicine while neglecting the human concerns. Renderings in a recent architectural book on hospitals depict one fish-shaped hospital placed underwater, another built of huge interchangeable, replaceable modules hung from a frame, yet another of an inverted pyramid **(left)**.

McMasters Hospital

Interior of McMasters Hospital, Hamilton, Ontario.

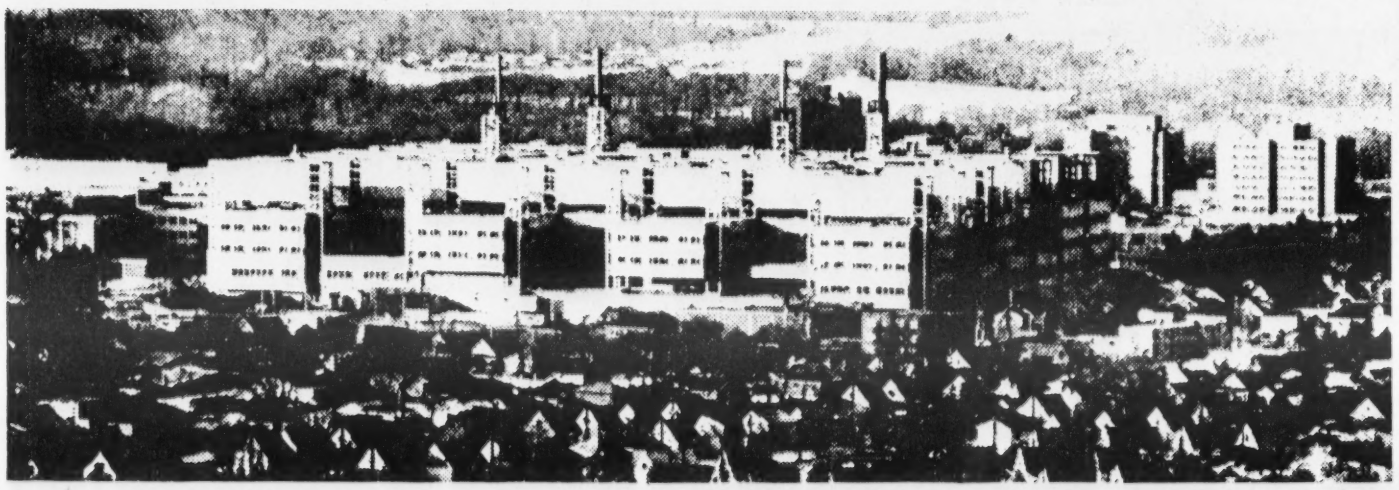




Hospital Modernization & Expansion © McGraw-Hill

While it is possible to laugh at the visionary designs, the reality of the large modern mega-medical center is no laughing matter. Two examples are representative of current trends. The first is **McMasters (below)**, in Hamilton, Ontario, emulated throughout the United States and around the world. Eight stories high, it covers an area of ten acres; each facade is more than 600 feet long. It is a major research center, uses one-third of its one million square feet for research, includes one nuclear reactor and two nuclear accelerators. About 51 percent of the facility is devoted to patient care. When you visit the small village it occupies, the buildings tower over you, and there is something about its scale and immensity which I found symbolic and frightening. I spent a lot of time there and tried to find out how people felt about the hospital. Feelings were obviously mixed. Some felt reassured because it was there and so high; others were scared.

The other hospital I went to visit recently is **Woodhull (right)** in Bedford-Stuyvesant, New York. Designed to replace a number of small hospitals in Brooklyn, it is nine stories high, has about one million square feet of floor space and 600 beds. Modeled after the Kaiser hospital, Woodhull has a central work corridor that is 900 feet long with identical rooms on either side; public corridors run along the perimeter making security in the poverty-striken neighborhood almost impossible. At Woodhull, you cannot really tell the difference between the area for cars, the area for pipes, and the area for people; the entire building resembles a giant factory for processing people. This alien structure sat amidst the small deteriorating buildings of the area unoccupied for over a year. In



Hamilton Spectator

Fine

Woodhull Hospital, Brooklyn, NY. Kollman, McKinnel & Rosso & Sonder, architects.

fact, it was offered to the prison system and rejected by them; now it is again supposed to open as a hospital in the near future.

There is a reaction all over the country against the continual expansion of these large mega-centers and against the closing of smaller hospitals and health centers nearer to where people live and work.

I was recently in Washington, D.C. at a meeting called by the Institute of Medicine to hear comments from institutions and individuals throughout the United States on the HEW goals and standards. The meeting reflected the outpouring and outrage of smaller communities at the recent HEW Guidelines which threatened to close their local hospitals in the wake of the trend to centralize and consolidate facilities. People from Iowa wrote over 11,000 letters protesting; from Texas there were 22,000 responses. There was panic that control would be taken away from the local communities.

I was pleased in visiting a **district hospital in Cheng Chou (below)** on the Yellow River in central China to feel the confidence of the people in their medical system. Children, women and men were all together in a Nightingale ward constructed in the early 20th century. There was a warm atmosphere of mutual support.

Three years ago, I was invited to Iran, to an area on the border called Luristan, and I was asked to consult on a hospital which was to be given to the province by the then Iranian Red Cross. While most of my colleagues had been invited to build modern "super hospitals," I was invited because I had written an article challenging the need for these giants in some undeveloped areas. The problems in Luristan are dysentery, dehydration, and the need for sanitation. The problems are obviously not super technological; the problems are food and clean water and basic preventive care. Women there were getting birth control pills, but the situation was such that they were bribed with extra milk if they took the pills, and sometimes they took them all at once. Technical knowledge was so primitive that once a pump to get clean water failed, it lay dormant. One positive thing the people who invited me had done was to dam the water in a stream so that the people couldn't do their wash there, and the animals couldn't drink there, and in the upper part of the stream, there was clean water.

When I was in London last year, I was told by one of the heads of C.I.B.A. Foundation that they had seen the hospital I built in Iran. I gulped and said, hospital? They said yes, they were very pleased with the hospital they had seen. Well, the hospital that I "built" consisted of a converted house. A doctor in the village had opened up his house and had set up a four-bed hospital. Obviously, that community in Iran didn't need our multimillion dollar facility.

Architects have had at least one terrible lesson that I think people in the medical profession have not yet learned. In the 1960s we built giant housing projects. One was **Pruitt Igoe (below)**; it was built in St. Louis; it won an architectural award. Then in 1970, because of its inhuman scale, because of its lack of occupants, because of the continuing community resistance to it, because of the embarrassment of its high cost, the United States government literally blew it up with dynamite.

Is the modern urban medical center with its increasing absence of patients matching the soaring costs going to go the way of Pruitt Igoe? Have we created a dinosaur? What can the role of the hospital be? The situation is approaching crisis proportions. It's a problem all of us must think about. The decisions can't be just left to professionals. The stakes are too high and their batting averages are too low. ■

Ward in Hospital Cheng Chou – central China.

Richard Lindheim

St. Louis Post Dispatch

L A B O R E R S . .

In each of the labors pictured here, the women felt connected – to the process, to nature, and to those supporting and caring for them; they felt trusting – of themselves and their bodies' natural ability to give birth. Above all, each of these women felt free – to follow their urges and behave with abandon. They birth with the enthusiasm and open innocence often missing in our modern births, something they achieved by deep personal work and sometimes by classes which deprogrammed the heavy layer of cultural warping which every society places on child-birthing women.

The emotional environment at a labor, the place of birth, and even more important, the people present and their attitudes, has tremendous impact on the course of a woman's labor. It may mean the difference between a strenuous yet passionate experience or a terrifying and excruciatingly painful one. It can also mean the difference between a normal and an abnormal labor pattern. This is because the mind and body so closely intertwine at the birthing process and a woman's emotional state can either free her body to do the work of bringing forth a child or bind her in anxiety and actually diminish the effectiveness of her contractions or constrict the flow of blood to her unborn baby.

Expressions such as these have long been

Photographs by Suzanne Arms

Suzanne Arms is the author/photojournalist of A Season To Be Born *(Harper, 1973) and* Immaculate Deception *(Houghton Mifflin, 1975, Bantam Pocket-books, 1977). She is 35 years old, and for the past 7 years has been an activist, public speaker and a consumer organizer on the issue of childbirth. She lives in Portola Valley, California with Don Creevy and her daughter Molly.*

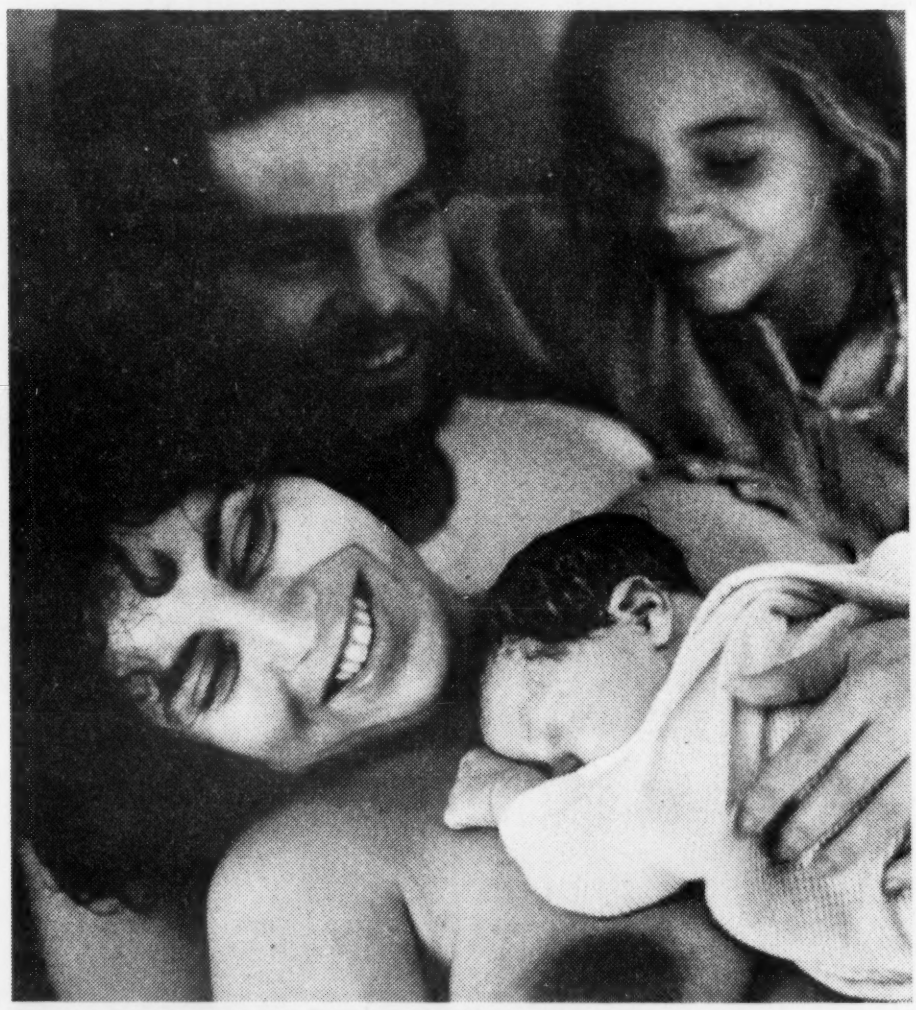
Several of the photographs appearing here are from her film "Five Women/Five Births: A Film About Choices" (1978). Information about that film is available from Suzanne Arms Productions, 151 Lytton Avenue, Palo Alto, CA 94301.

All photographs have been reproduced with the express permission of the women and men so intimately shown, in the expectation that they might help to free others from fear of birth.

©1979 Suzanne Arms

depicted in the drawings and sculpture of primitive societies. They are the expressions of life yielding to new life and a witness to the tremendous strength within women. They are not often seen in hospital settings or wherever the woman feels ashamed or embarrassed by the full expression of her body and its emotions. Perhaps in time and with images such as these women will feel a pride and sense of power about their birthing bodies and spirits.

—Suzanne Arms



...OF THE WORLD

I did this piece at a time when I was deciding whether or not to have a child. I was at the age where I had to do it then or not at all; and I wanted consciously to *choose*, not have regrets and bitterness when I was old and childless.

So I waded into the issue, living with a lot of feelings from envy of new mothers to fear to joy at being with kids. I love kids – their pastimes and habits, their ways, their grasp of the world, their perceptions. Did I want to raise one, give my energy to that, or did I want to put it into creating something else – in my case, art.

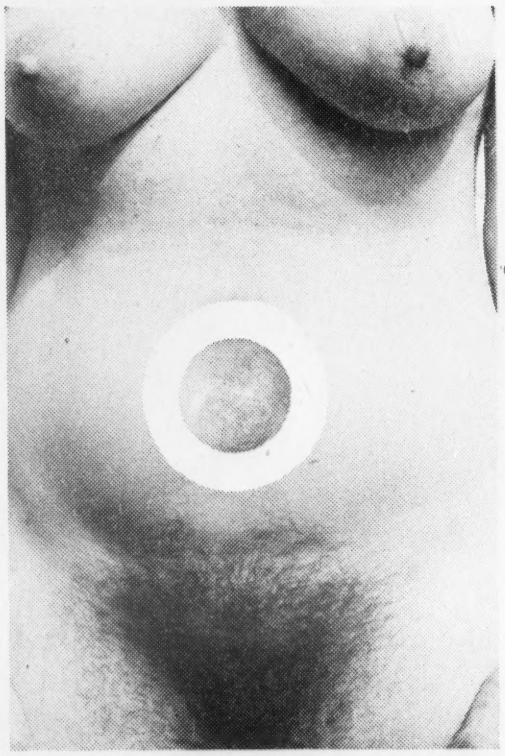
And I did lots of hard thinking as well, trying to sort out cultural conditioning and expectations from what I really wanted as a woman/person.

The photographs were done as part of this process of deciding. They were a way of almost experiencing childbearing and birthing, leading me closer to the reality, maybe as close as I could come without actually doing it. Doing the set brought up a lot of feelings and questions, and working with it after the shooting (in the darkroom) made me live with the hardness of my choice. I don't always use art to work out issues, but this time I did. . . .

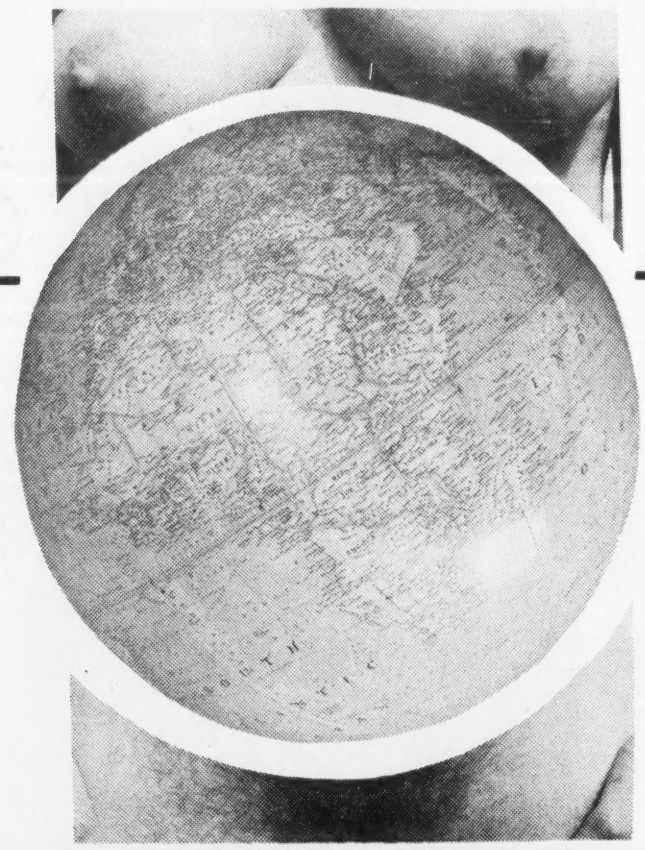
I decided, partly as a result of working with making these images, not to have a child, a real one anyway. So in some ways, the world is my child and what I create out of the world is my child.

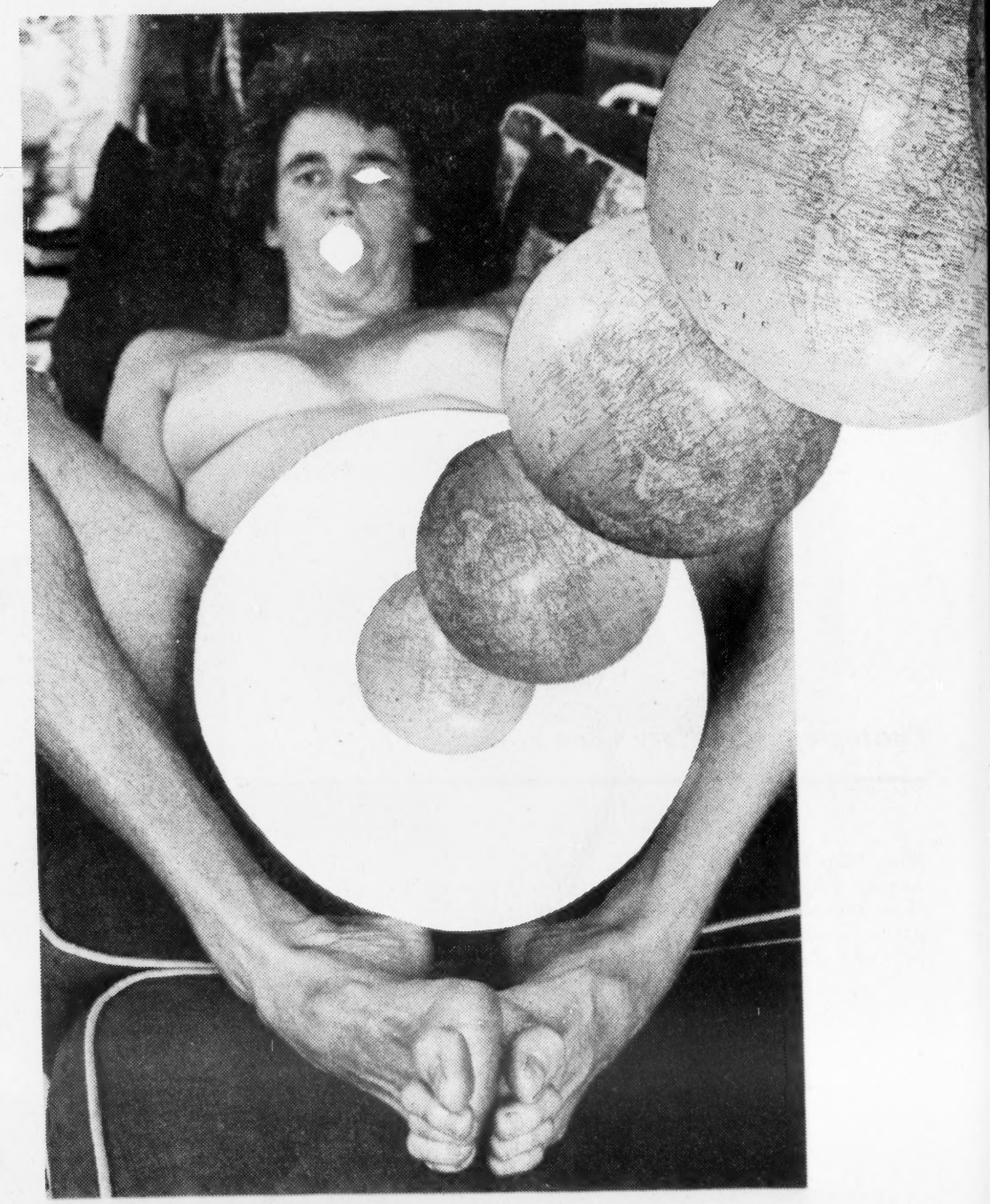
–Mary Clare Powell

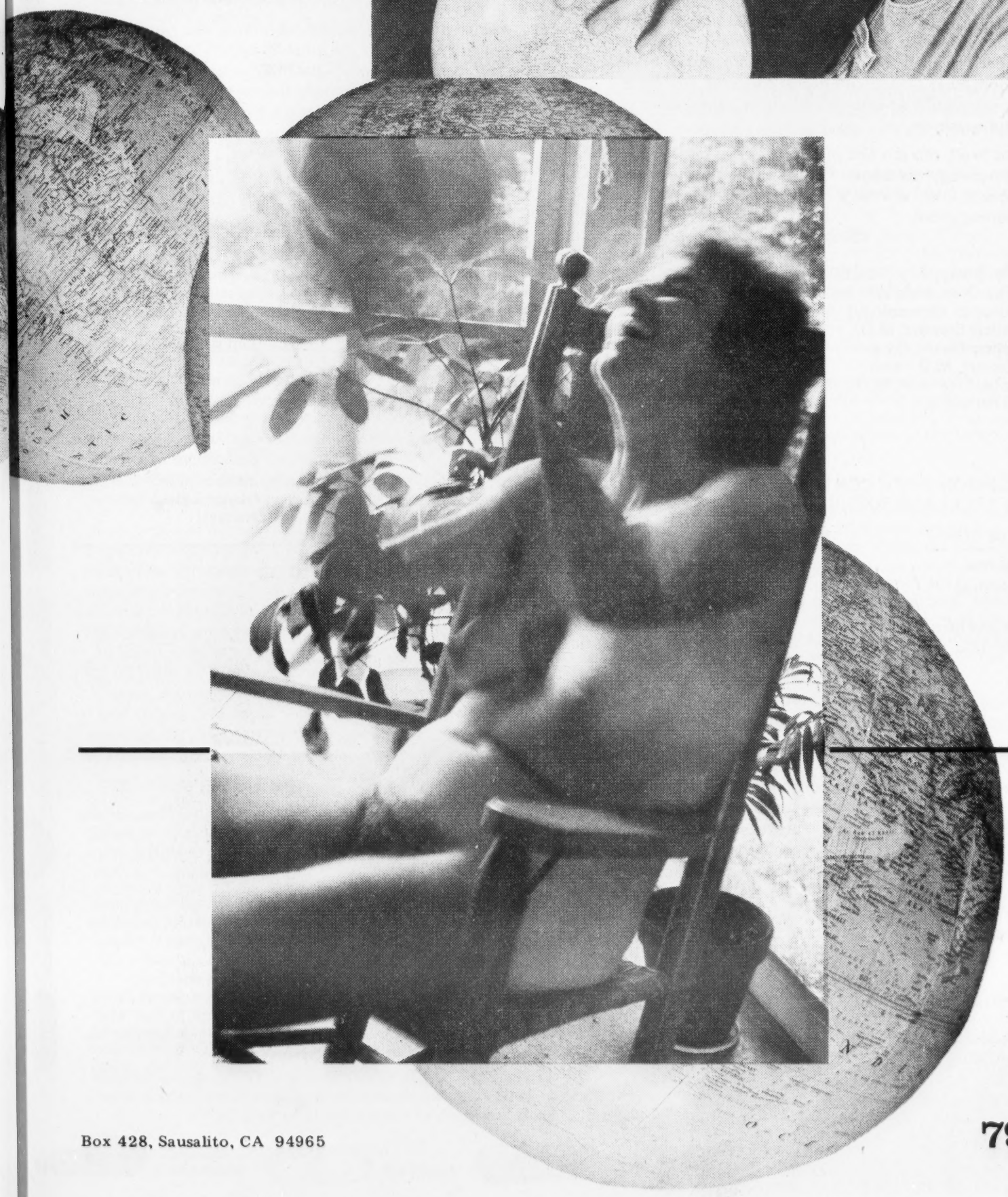
Photographs by Mary Clare Powell



Mary Clare Powell, of Dunn Loring, Virginia, made these self-photographs as part of a series. Also as part of a decision. *–SB*







My Body, My Health

This book will be welcomed by both health professionals and women interested in self-care and quality gynecological care. Written by several people long-respected in gynecology and family planning circles, its concise yet surprisingly thorough chapters cover the gamut of women's most frequently encountered health concerns: pregnancy, birth control, abortion, surviving a pelvic exam, common infections, menstrual problems, abnormal pap smears, breast self-exam, breast lumps, cancer, sexual problems, menopause, surgery, etc.

I appreciated the up-to-date coverage of DES exposure and rape, and the special section (available in the clinician's edition only) on developing patient education programs and obtaining legal consent. The sections on teenage sexuality, vaginal hygiene, recognition of early signs of pregnancy, facing surgery, and special help in choosing a method of birth control are sensitively written and cover topics not easily found elsewhere.

Lists of good references for some topics – particularly DES – are included, as is a list of recommendations for further reading. The only improvements I could suggest would be more explanations of alternative or holistic approaches to women's health concerns, and more consideration of women's lifestyles, stress, exercise, and nutrition.

All in all, this is a fine piece of work – our first lay gynecology textbook. I'd like to see a copy in every library, every women's clinic, and every gynecologist's waiting room. *–Carol Berry, R.N., N.P.*

[Suggested by Tom Ferguson, M.D.]

My Body, My Health
(The Concerned Woman's Guide to Gynecology)
Felicia Stewart, M.D., Felicia Guest, Gary Stewart, M.D., and Robert Hatcher, M.D.
1979; 566 pp.

$5.95 postpaid (regular edition)
$13.95 postpaid (clinician's edition) from:

Wiley Medical Publications
1 Wiley Drive
Somerset, NJ 08873
or Whole Earth
(regular edition only)

COMMON BIRTH CONTROL PILL SIDE EFFECTS AND POSSIBLE SOLUTIONS

Side Effect	Possible Solution
Nausea	Reduce estrogen
Spotting	Increase estrogen and/or increase progestin
Missed menstrual periods	Increase estrogen and/or use progestin with estrogenic effect and/or reduce or increase progestin
Fluid retention, breast tenderness	Reduce estrogen and/or reduce progestin
Contact lenses don't fit	Reduce estrogen
Breast enlargement	Reduce progestin and/or reduce estrogen
Vaginal yeast infections	Reduce progestin
Weight gain	Reduce estrogen and/or reduce progestin
Irritability, depression	Reduce or increase estrogen and/or reduce progestin
Decreased sex drive	Reduce progestin and/or increase estrogen
Heavy menstrual periods	Increase progestin
Excessive vaginal discharge	Reduce estrogen and/or reduce progestin

Taking Minipills is a method of birth control that many women would seriously consider if they only knew about them. Estrogen-free Minipills offer many of the benefits of regular Pills, with fewer side effects and a lower overall dose of hormone. Although Minipills are relatively new and detailed studies of Minipill safety are not yet completed, this method seems to deserve a more prominent place among contraceptive options than it now has. If manufacturers' marketing policies were altered to give Minipills the exposure that regular Pills now receive, it is likely that many women who now choose Pills might decide to try Minipills instead.

The Pill Book

For anyone who wants a handy, paperback version of the **Physician's Desk Reference** *(***PDR***) at a fifth the cost. It even comes equipped with a color photograph section that will enable you to identify commonly prescribed pills by color code. The drugs (over 950) are listed alphabetically by generic name – to locate a brand name drug you must look up the generic name in the index.*

The authors provide almost everything you would ever want to know about the most frequently-prescribed drugs – and their format beats the **PDR** *hands down. You will find:* Type of Drug, General Information *(how it works),* Cautions and Warnings, Possible Side Effects, Possible Adverse Drug Effects, Drug Interactions, Usual Dose, Overdosage, *and* Special Information.

For checking out the nuts and bolts of the most common prescription drugs, this is one of the best – and certainly the lowest-priced – references on the market.

–Joe Graedon

[Suggested by Tom Ferguson, M.D.]

The Pill Book
(The Illustrated Guide to The Most Prescribed Drugs in The United States)
Harold M. Silverman, Pharm. D., and Gilbert I. Simon, D. Sc.
1979; 417 pp.

$2.95 postpaid from:

Bantam Books
414 East Golf Road
Des Plaines, IL 60016
or Whole Earth

Drug interactions with other pills, alcohol, food, or other substances can be a cause of drug-related death. Interactions are more common than overdoses!

The Essential Guide to Prescription Drugs

The most detailed available consumer's encyclopedia on the 200 + most commonly prescribed drugs – mode of action, side-effects, contra-indications, time required for benefit, recommended follow-up examinations, interactions with other drugs, and – especially hard to find – use during pregnancy and breastfeeding. No opinions on controversies here, just the facts. –Tom Ferguson, M.D.

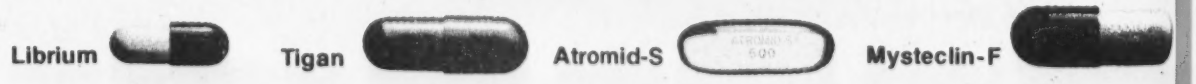
The Essential Guide to Prescription Drugs
(What You Need to Know for Safe Drug Use)
James W. Long, M.D.
1977; 752 pp.

$8.95 postpaid from:

Harper & Row Genl. Books
Keystone Industrial Park
Scranton, PA 18512
or Whole Earth

Aspirin – Use During Pregnancy – Studies indicate that the regular use of salicylates during pregnancy is often detrimental to the health of the mother and to the welfare of the infant. Excessive use of salicylate drugs (aspirin) can cause anemia, hemorrhage before and after delivery, and an increased incidence of still births. It is advisable to limit the use of aspirin during pregnancy to small doses and to brief periods of time.

Aspirin – Use in Breastfeeding – This drug is present in milk and may cause adverse effects in the nursing infant. It is advisable to avoid use if nursing.



Cold Comfort

This book is so useful and sensible that it makes you wonder why somebody didn't write it a long time ago. It's about colds — and the flu — and it's written to be read while you have a cold or the flu.

Describes exactly what's happening to make you feel that way — including anatomy and physiology and a brief elementary course in viruses. Bennett, co-author of the **Well Body Book** *(Epilog, p. 604) describes the pros and cons of commercial cold remedies, and the benefits of relaxation, acupressure, vitamin C, hot lemon tea, hot ginger milk, and "Grandmother Pelton's chocolate-molasses cookies." Also offers tips on how to distinguish between colds and flu and the onset of more complicated illnesses.*

Sure to become a classic. I've already loaned it out to several friends with colds. Their verdict — (Sniffle. Cough.) — A+. *—Tom Ferguson, M.D.*

Cold Comfort
(Colds and Flu: Everybody's Guide to Self Treatment)
Hal Zina Bennett
1979; 155 pp.

$4.95 postpaid from:
Clarkson N. Potter
Crown Pub.
One Park Avenue
New York, NY 10016
or Whole Earth

Take a very hot bath, as hot as you can stand, and then snuggle up in a nice warm bed. Remain there the whole day and through that night, even if doing so means you're neglecting your family. Read a good book or write letters to special friends who are far away. Drink lots of fluids.

. . . The main ingredient here is warmth, a subject we investigated in our discussion of temperature. We know that heat increases the body's production of natural substances to reduce the viruses' ability to reproduce. Moreover, it speeds up the body's metabolic rate, creating an active rather than a sluggish system, for cleansing away

dead cells and creating new cells to replace those damaged by the viruses. And by raising your body temperature you make a less inviting environment for the viruses. In addition, the warmth relaxes you. This absence of stress, we know, is particularly therapeutic — not only because it opens tiny capillaries throughout your body, thus increasing the flow of blood to areas of infection, but also because it keeps down your production of the hormone cortisol, which can reduce antibody production.

•

Q: What does it mean to let a cold or flu "run its course"?

A: The *course* is the period of time it takes your body to identify the virus, build antibodies, and render the virus noninfectious. You get over a cold not because the virus gets tired of your company and decides to move on to the next person but because your body does some very definite things — it identifies the virus, it synthesizes substances that make it impossible for the virus to spread (sort of like feeding the virus a birth control pill), and it repairs tissue damaged by the infection, which it accomplishes by reproducing healthy body cells at a more rapid rate than usual.

Q: What about using antihistamines, decongestants, and the other cold medicines advertised in the media and sold in drugstores and supermarkets?

A: Minimize your use of these drugs. None of them shorten the period you have the infection, and many can cause symptoms of their own. My own experience is that they frequently cause further discomfort and can prolong the period you have a cold or flu.

Anatomy of an Illness

Norman Cousins, long-time editor of **Saturday Review,** *acquired a second fame a couple of years ago with an article in the prestigious* **New England Journal of Medicine** *chronicling his self-inflicted recovery from a crippling and supposedly irreversible ailment (his spine was disintegrating).*

With the aid of his unusual doctor Cousins got the hell out of the hospital, took full responsibility for his own treatment, and began trying stuff — massive vitamin C, massive cheerfulness (the famous home-showing of Marx Brothers and Candid Camera films).

The miracle of cure plus Cousins' intellectual and lively presentation has made this one of the most influential medical documents ever. Patients read it and act differently. So do doctors. So do hospitals. *—SB*

Anatomy of an Illness
(As Perceived by the Patient: Reflections on Healing and Regeneration)
Norman Cousins
1979; 173 pp.

$9.95 postpaid from:
W. W. Norton & Co., Inc.
500 Fifth Avenue
New York, NY 10036
or Whole Earth

I had a fast-growing conviction that a hospital is no place for a person who is seriously ill. The surprising lack of respect for basic sanitation; the rapidity with which staphylococci and other pathogenic organisms can run through an entire hospital; the extensive and sometimes promiscuous use of X-ray equipment; the seemingly indiscriminate administration of tranquilizers and powerful painkillers, sometimes more for the convenience of hospital staff in managing patients than for therapeutic needs; and the regularity with which hospital routine takes precedence over the rest requirements of the patient (slumber, when it comes for an ill person, is an uncommon blessing and is not to be wantonly interrupted) — all these and other practices seemed to me to be critical shortcomings of the modern hospital.

•

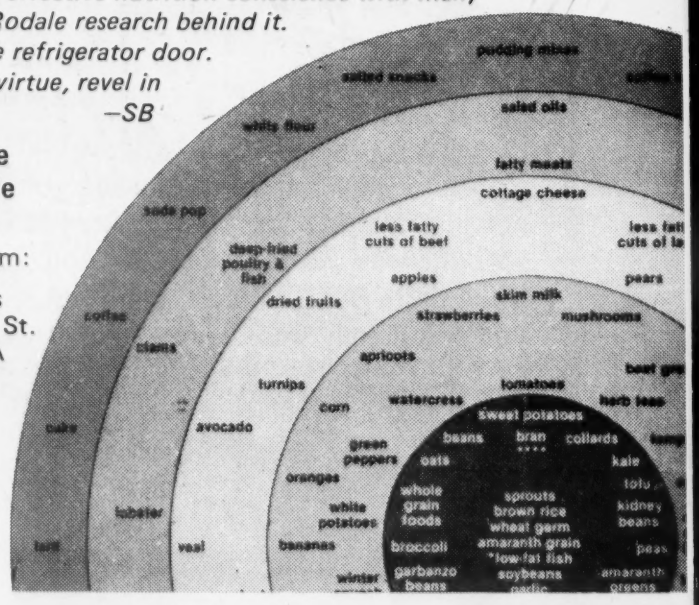
I made the joyous discovery that ten minutes of genuine belly laughter had an anesthetic effect and would give me at least two hours of pain-free sleep. When the pain-killing effect of the laughter wore off, we would switch on the motion-picture projector again, and, not infrequently, it would lead to another pain-free sleep interval. Sometimes, the nurse read to me out of a trove of humor books. Especially useful were E.B. and Katharine White's **Subtreasury of American Humor** and Max Eastman's **The Enjoyment of Laughter.**

•

Rodale Food Guide

A cheap and effective nutrition conscience with many decades of Rodale research behind it. Nail it to the refrigerator door. Enjoy your virtue, revel in your sins. *—SB*

The Rodale Food Guide
25¢
postpaid from:
Rodale Press
33 E. Minor St.
Emmaus, PA
18049



The Four Illusions of Money

and the non-money truths they hide

by Michael Phillips, Rasberry and Andora Freeman

Why do people work at jobs they don't like? Why is it common to hear people say their goal in life is to "make a lot of money?" These are the most frequently given answers:

"A lot of money will let me be free to do what I want."

"People with a lot of money command more respect from others."

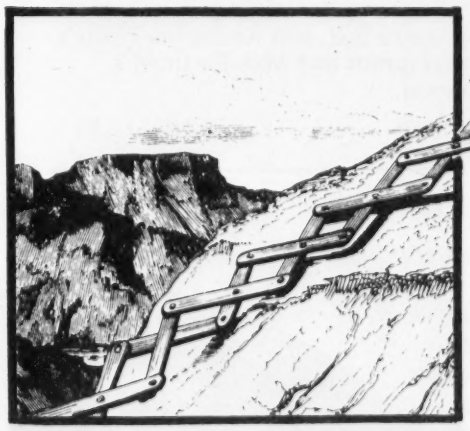
"I need more money for my family."

"Money is necessary for security in old age."

THESE STATEMENTS ARE ILLUSIONS. They are inaccurate perceptions of the world we live in.

When we look at the average graduating class of high school students, we are distressed to know that nearly all of them hold these values: they seek "a lot" of money as a lifetime goal. Less than five percent of these students will become healthy. The remaining 95 percent will shape their lives around these inappropriate values.

How do *you* feel about these four statements? Read them over and see if you find them completely agreeable. For most people they are.



"A lot of money will let me be free to do what I want."

You can really feel this way when you're working at a job that you don't like, when you're unhappy with the way things are going in your life, and when there is some object, experience, or service you desperately want to buy.

The alternative is to deal with these feelings directly and positively. Write down the specific things you want to do with your life. Describe the things you need to shape the kind of person you want to be (the experiences you need, knowledge skills, talents, etc.) Make sure what you write down doesn't include money itself. When you look at your list you'll find that there is a way to accomplish all of it in your lifetime without any more money than you now have. Most things require that you actively pursue them and LEARN in the process. If you want to be a world traveller, join the crew of a sailing ship and be useful in a way you know now. Later you'll be useful as a sailor and have the necessary great stories to tell at night about hitting sharks on the nose in the Bahamas.

What you may find from the list that you make is that having a lot of money may allow you to achieve goals a little sooner, but the effort of going out and earning money to make something happen sooner is not worth the time, and more importantly the person you may become may have lost vigor and joy.

Back in the late '50s a young woman who desired a doctorate degree won over $100,000 on a TV quiz show. Years later, in reflecting on the effect of the prize money, she said it made little difference in her life although it may have accelerated her degree by a few years. She was a strong woman and knew what she wanted to do with her life. She's Doctor Joyce Brothers.

Her experience is not uncomon. People who know what they want to DO with their lives go ahead and do it. They don't make the money first doing something else. It often turns out that money and the possessions which go with making lots of money are responsibilities and restrictions that inhibit freedom. The possessions unrelated to your livelihood are often amassed to help you feel better about yourself.

Ex-banker Michael Phillips is the author (with Rasberry) of ***The Seven Laws of Money****. The clip art is from the peerless Hart Picture Archive* ***Humor, Wit, & Fantasy****. –SB*

Check your list again and see how many possessions are listed there. Most possessions on your list are abundantly available. Many things can be borrowed from friends who are willing to share. That includes everything from a ski condominium in Snowmass to an Aston-Martin race car. With a good network of friends, nearly anything is possible. The alternative to investing your energy in making money is developing strong friendships. This means being an interesting, trustworthy and helpful person yourself.

When you are unable to locate something you need among your friends, consider renting the piece of equipment. Finding and restoring "discards" can be an alternative to save both money and resources. Perhaps you have possessions you can trade to a friend or neighbor in exchange for something more useful. Service bartering can be an even more rewarding experience. It costs no more than time and energy spent with a friend. If you have a skill, share it with others.

In writing and examining your values it's helpful to talk to someone who is wise. The wisdom of millions of our ancestors has been very consistent on this point, and wise people constantly pass it on to us. The goal of amassing (getting a lot of) money is traditionally called "greed" and regardless of your motives in getting the money (freedom, charity, or anything else) the results will not be what you hope for. Instead the wise teachers of tradition tell us to go ahead and do the things we want and become good at them. In that lies our freedom.

"People with a lot of money command more respect from others."

If you know that the first statement about money and freedom is false, then it will help you to see the fallacy behind money equaling respect. In looking at the big cars and the big houses we often believe that their owners can do much more than we can. If indeed the people with big cars and houses can do more than we can, then it probably isn't their money, it's other qualities that they may have such as knowledge, experience, and friends. It isn't their money. A common experience in business is the person who builds a successful company, goes broke, and then builds up a new company again starting from scratch.

If we believe we personally want respect, it helps to make a list of the qualities we want to have, qualities that lead others to respect us, qualities that we want our children to have or our friends to have. Do words such as loyal, honest, and generous occur on your list? A careful examination of these qualities reveals that each of them has to do with how we conduct our daily lives and not how much money we have.

Now make a list of the people you love. Bob, Annie, Carole, and David. Examine the list to see if it's ranked in the order of how much money they have. There is probably no relationship between love and the amount of money they have. The same criteria we apply to others can be applied to us. Money isn't a reason for friendship or respect.

"I need more money for my family."

Why shouldn't people be generous with their families! This seems like reasonable parental behavior. It's when people use this concept as an excuse for doing something that they would rather not do that it is a fallacy. When someone works at a job that they find unpleasant, monotonous (too demanding), stressful, or frustrating and say they do it for their family, they're talking nonsense.

Many people work long hours, develop ulcers and live with great stress because they believe their family benefits. Stop and ask your family what they want. Would your children rather have a Winnebago camper (which may mean the main wage earner works a lot of overtime) or would they rather have you at home to spend time together or go on a camping trip with ordinary sleeping bags and tents? Give your family the choice between those possessions and the time and peace of mind you are diverting from them to earn it.

Another useful technique is to look at a picture of two houses – one a glamorous mansion, the other a modest home with a bicycle near the front door. Which one of the houses has a happier family? Most people would say "I can't tell" when the question is posed this way because we know in our hearts money and possessions have nothing to do with happiness.

"Money is necessary for security in old age."

Michael is blessed with a father who is a living contradiction of this. When he was 65, his father retired from teaching anthropology and social sciences with a modest pension and Social Security income of $300 a month. He sold his home and all his belongings, including a lifetime collection of tools and books which brought almost no revenue. He bought a van in England and proceeded to drive east with his wife (Michael's parents were divorced 15 years earlier). He got teaching jobs along the way and stopped anywhere he found interesting.

Driving as far east as they could go, they ended up in Malaysia where they bought part of a South China Sea island near Singapore for $2,000. They now live part time on their island with a sandy beach, coconut trees, fresh fish, and lots of Malaysian and Chinese friends. They live on less than $100 a month and save the rest for numerous trips they take to all parts of the world including back to the U.S. One of the most surprising benefits is that they see many of their old friends from all over the world regularly. Everyone wants to visit their tropical paradise for a vacation. With Singapore nearby, they have all the comforts of a major international city with its cuisine, culture, and excitement.

Michael's father could live on any amount of money. In the seven years since he retired he hasn't touched his savings. How about health care and medicine? One of his closest friends is chief of a major research hospital in Malaysia that is better than 98% of the hospitals in the U.S. Friendship is more powerful than money.

From the Grey Panthers to people in retirement villages the ones who are happy in their old age are the ones that have the same qualities that Michael's father has: being friendly and flexible. Money makes no difference at all. With friends, especially ones of all ages, you can solve the problems that arise, whether it's tax increases, inflation or legal hassles – problems that other people can't handle because times have changed and their lifetime experiences and contacts are inappropriate. Friends also provide vitality, emotional support and new friends – which is especially valuable after age 75 when one out of ten old friends die each year.

Flexibility in attitude is also essential as your body becomes less reliable. We all know old people who say, "Close the window, the draft is terrible," "I can't sleep in that bed, it's too soft," and "I don't like to be around those kinds of people." With that attitude, who wants to be around THEM?

Michael's mother, who is also a positive example for him, has been living on her own for the last 20 years. She built a small contemporary house for herself and has always been gregarious and flexible. Even past seventy, she's involved in the politics of her city, art-related projects, and is the local fund raiser for the ACLU. (Any of her friends can call her for help on anything and she'll do it.) When she comes to visit San Francisco, several of Michael's friends always insist on spending time with her and showing her around. She travels regularly, often being invited on global trips just for her company and knowledge. You don't hear her complaining about comfort issues or how terrible the world is today.

The three of us have worked with many older people who had lots of money. In a case where the husband had earned the money we frequently find that the husband is confident and secure but the wife is anxious and often hysterical. He has earned the money in the first place and knows he could do it again even in his old age; the woman has no such experience and dreads the day when her husband will die and she has to face the world alone. No amount of money that we have seen can calm this kind of fear.

How do you prepare for old age? How do you prepare for inflations, wars, and depressions of the future? By being the kind of person other people want to be around. Competent, helpful, flexible, curious, generous, and experienced in dealing with the world.

The Moral

If you have friends and make an effort to be an interesting person, money is irrelevant. You can have a great deal of freedom and respect during your life and security in your old age. However if you are a loner, rather selfish, with narrow interests in life, then making a lot of money may be your only way to make it through life. ■

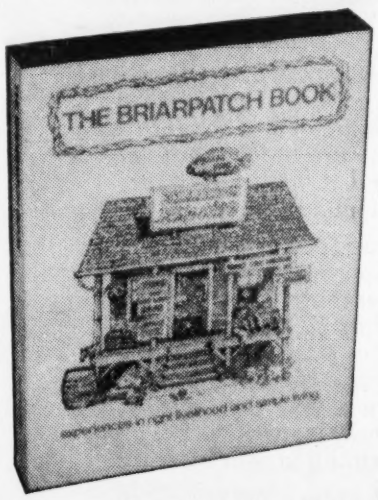
Bibliography

Seven Laws of Money, Michael Phillips (Random House)
Briarpatch Book, (New Glide)
Inland Whale, Theodora Kroeber
Zen Mind, Beginners Mind, Suzuki-Roshi
Tassajara Bread Book, Ed Brown

The Briarpatch Book

What really happened to the '60s generation? We nearly all got into small business. Businessmen were the first non-stoned Americans to accept us, and many of us entrepreneured in the dope black market. Small wonder that we evolved our own version of the admirable small-business ethic. Its expression came to greatest clarity in the Briarpatch – a loose association of San Francisco Bay Area new-age businesses.

The name and practice of the Briarpatch has become famous but hard to find and examine. Here it is, declared and exampled. —SB



The Briarpatch Book
(experiences in
right livelihood
and simple living)
Briarpatch Community
1978; 313 pp.

$8 postpaid from:

New Glide Publications, Inc.
330 Ellis Street
San Francisco, CA 94102

or Whole Earth

The Briarpatch is a network of small-business people who have three values in common: we are in business because we love it; we find our reward in serving people rather than in amassing large sums of money; and we share our resources with each other as much as we can, especially our knowledge of business. We share management and marketing information, legal and technical knowhow, names of suppliers, and what general practices work and do not work. We are committed to keeping our books and financial records open. Our customers, employees, friends, and relatives know how much we earn, how much our supplies cost, and anything else they want to know about the financial workings of our businesses.

We share naturally because we love what we are doing, and we are open because our practices are honest. If you share these values, then you, too, are a Briar.

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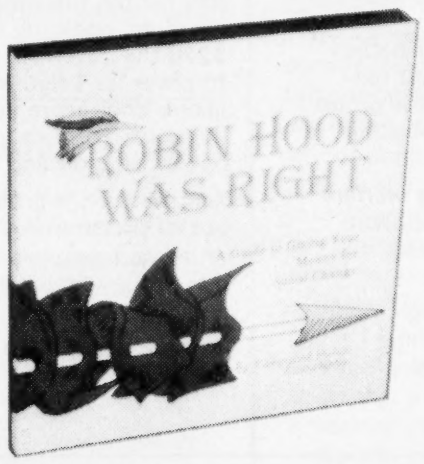
There are only two ways to search out a storefront: ask other shopkeepers in the area you like (realty companies also if you come across any); and locate dimly lit, painted over, or unused-looking stores.

The name of the owner or landlord will never be posted on such stores. So how do you find out whom to contact? First, call the Public Library and ask to speak to the office that has the "City Directory." This book is the opposite of the phone book – it has street addresses (from 1 Broadway to 3001 Broadway, for example) listed first, followed by people and phone numbers. So if you know the address, you can call the number at that address. If there is no listing for that address in the City Directory, don't give up – there's another approach: call the Assessor's Office at City Hall and ask for the owner's name and number listed in the "Realty Index." This book is organized the same way as the City Directory except that it has names of owners, not renters.

Robin Hood Was Right

An inspiration and advice kit for rich kids. How to not feel bad about being born to wealth, and how to treat the burden as a creative resource for others. I'm a great supporter of private wealth – through no other means can you get really original and really radical giving in the society. This well-made book shows how. —SB



Robin Hood Was Right
(A Guide to Giving Your
Money for Social Change)
Vanguard Public Foundation
1977; 148 pp.

$5 postpaid from:

Vanguard Public Foundation
4111 24th St.
San Francisco, CA 94114

If you publicly give away money, you have to face the fact that you're going to get hustled. People will invite you to "parties" that are really fundraisers; others will make it their business to get to know you on a friendly basis. You'll receive tons of letters in the mail and occasional knocks on your door asking you to pay the rent of families facing eviction or bail someone out of jail in Peru, sponsor trips to Tahiti or support a struggling young poet. In short, you'll be asked to fill an entire spectrum of heartrending and sometimes whacky needs that have nothing to do with projects you want to fund. You may wonder, "Am I really this popular?" The answer is no.

In response to this pressure, many rich people have simply disconnected the phone, closed the checkbook, and stopped giving money away altogether. There are better ways to deal with the problem. . . .

The Family Circle Guide to Self-Help

Self-help groups provide a low-cost, low-technology, consumer-intensive alternative to expensive, high-technology, expert-intensive models of providing human therapy and services. The self-help movement is large (500,000 groups, 5 million members in the U.S.) and largely invisible.

This inexpensive paperback is a readable, helpful introduction to the theory and practice of self-help groups. Includes listings of 450 self-help groups in the U.S. and Canada. —Tom Ferguson, M.D.

The Family Circle Guide to Self-Help
Glen Evans
1979; 240 pp.

$3 postpaid from:

Ballantine Books
455 Hahn Road
Westminster, MD 21157

or Whole Earth

I have seen self-help group members reach out to neurotics, gamblers, alcoholics, drug abusers, phobics, ex-convicts, and child abusers, to name a few, and lead them out of their enormous emotional anguish and overwhelming stress and guilt. Many of these people had been unable to deal with the bureaucracies of programs sponsored by professional agencies. Others had been tragically ignored, stigmatized, and ridiculed for years. It was a revelation to me to see how they responded to people in self-help groups who had been "down the line," who shared their anxieties and concerns with them and offered encouragement and support.

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As one group of self-helpers put it (the Integrity Groups), "You alone can do it, but you can't do it alone."

The Small Towns Book

Two city people who have gone back to the town advise others like themselves on how not to destroy what they came to take part in. Case studies of 6 small towns in danger of being loved to death by bureaucrats, tourists or urban exiles. There's enough detail that it might help you in your fights and enough good general ideas that it might change your mind about what to fight for. A good companion to **The Town That Fought to Save Itself** *(CQ, winter '76-'77).* —*Anne Herbert*

The Small Towns Book
(Show me the way to go home)
James & Carolyn Robertson
1978; 208 pp.

$5.95 postpaid from:

Doubleday-Anchor
501 Franklin Ave.
Garden City, L.I., NY 11530
or Whole Earth

AN OPEN LETTER TO VISITORS

First be assured that it is not you, personally, we are questioning. Person-to-person, had we a quiet context, we would probably become friends; certainly not enemies.

Our problem is that the flood of tourists recently has passed beyond what a small town can handle and still function as a community. Noise of automobiles drowns out sounds of the ocean, even late at night. We now smell exhaust instead of salt air. Streets are littered. Townspeople cannot find places to park. Many young, creative people have had their rents increased and must now move. Taxes are rising and many oldtimers now must sell. The quiet, creative ambience of the town is dissolving, replaced by a growing number of antique stores and other tourist-oriented businesses.

We realize growth is inevitable; most of us moved here realizing M— had an active tourist industry already. We accept that visitors have a legal right to come here and that property owners have a legal right to develop their land as they see fit.

But we also profoundly cherish the fact that M— is a living community; this is our home; families live here. This is still a creative center where artists, poets, actors and students come to live and work and experiment.

We do not mind a reasonable number of visitors, especially visitors who will pause long enough to get to know the town, the people — will trouble themselves to *feel* the real M— beneath the commercial veneer. We mind the innundation of the town by hordes flashing through for a few minutes or hours. We mind the rapid and sudden investment in M— as-commercial-enterprise, especially by those who live elsewhere.

So we urge you to come here infrequently, sensitive to the fact that you are entering a fragile community of real people. If you do come back, we urge you to consider staying for more than a night or two — long enough to realize that basic functions of communities are deep and personal. . . and that window dressing is not the real product. Look for the authentic work of *local* people. Question what you buy, whether it is locally made, or just shipped here for the tourist industry.

Please do not encourage others to come here. Present facilities — and basic services — are overloaded. We do not want more facilities to further destroy the fragile fabric of community that still exists here. Consider — and we say this respectfully — your own backyard. If you spent the time and energy *there* that you are spending here, wouldn't you, your family, your neighborhood, and the planet, be better off? Then, perhaps we could someday visit *you* and have something to gain from it.

Community in America is getting to be a lost art. Commercial, phoney tourist traps are increasingly prevalent. Help us protect, maintain, and develop the former.

—The M— SCAT Committee
(Sensible Citizens Against Tourism)

Welfare recipients demand right to be frozen

Thirty-seven welfare recipients staged a sit-in at University Hospital today demanding that their bodies and those of their families be frozen for the next ten years: A spokesperson for the group said that the group is asking Medicaid to pay for the expenses involved in the freezing and storing process.

The group's theory is that ten years of monthly welfare checks will collect and pile up providing the recipient with a sum of money at the end of these ten years. A frozen family has virtually no expenses.

"In 1988 I could be thawed out and have enough money for a down payment on a house. Rents are so high I won't be able to keep up with them much longer," says an ADC mother with three small children.

A disabled man says, "It would cost $1,300 a month to pay for the full time helpers I need to get dressed in the morning, cook my meals and go to bed at night. The $270 the government gives me helps but doesn't begin to cover it. I figure being frozen for 10 years would insure one secure year when I am thawed. Instead of living for 70 or so years all at once I can sample one year out of each decade up to 2378 A.D.

Another of the group commented, "My S.S.I. check is out of proportion to the money I earn at my new job. With the transportation expenses my job creates I actually lose money by working. When I get thawed I could buy a car."

The hospital has no comment at this time.

Andrea Cappoert, Ann Arbor, Michigan

Community Technology

Karl Hess and friends worked for five years to transform the Adams-Morgan neighborhood in Washington, D.C. into a self-sufficient model of what could be done. There were fish farms, solar collectors, vegetable gardens and all the "good stuff" you could wish for. Thousands of people were involved in a town-meeting democratic direct-participation self-governing system. It sounds great! It failed. Karl Hess tells what happened with sometimes heart-breaking honesty, and finishes the book by describing what could be done next time to make it keep working. As grand experiments are attempted, it is essential that chronicles such as this one are written both to record events and to give the subsequent efforts the benefit of experience. Thanks Karl. —*J. Baldwin*

Perhaps the most ingenious variation of the fish-farming technique was a small fish-farming operation on 17th Street N.W., which used as feed for its fish a "ranch" of cockroaches obtained from "brood stock" rousted out in a clean-up campaign and fed exclusively from kitchen wastes made available through the local trash separation service. Efforts of a well-known local lawyer to close down the operation were outwitted during the now legendary Cockroach Conflict in which the 17th Street fish farmers threatened, if stopped, to liberate their entire ranch of roaches in the neighborhood of the famed, and futilely fuming, lawyer.

Community Technology
Karl Hess
1979; 107 pp.
$2.95 postpaid from:

Harper & Row Gen'l. Books
Keystone Industrial Park
Scranton, PA 18512
or Whole Earth

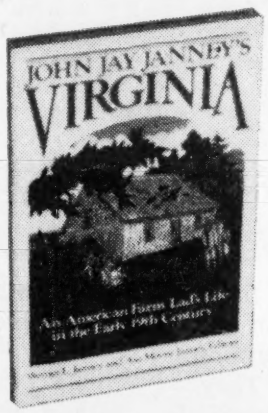
John Jay Janney's Virginia

One of those long-lost, recently re-discovered treasure chests. Born in 1812, J.J. Janney lived for 95 years; and he wrote it all down. But his ledger is no autobiography. It's a recollection collection of every plain and simple (simply fascinating) aspect of backwoods farmlife in the early nineteenth century. John had the insight to write about his own time, in his own time. He wrote about dressing flax, flailing rye, washing eggs, and borrowing fire. He recorded his childhood memories of passenger pigeons, hollyhocks, foot races, sun bonnets, kissing games, nicknames, jackstones and shoe pegs. He included two interviews with Abraham Lincoln, and a wealth of delightful details about such things as witch-craft, hazel nuts, scythe sneads, reflector ovens, pop guns, leaf lard, brandy pears, marbles, bees and corn stalk fiddles. Short of the **Fox Fire** *series, there's nothing like it. It's a wheedler, through and through.*

—Clayton Roberts

John Jay Janney's Virginia
(An American Farm Lad's Life in the Early 19th Century)
Werner L. Janney and Asa Moore Janney, eds.
1978; 134 pp.
$6.95 postpaid from:

EPM Publications
1003 Turkey Run Rd.
McLean, VA 22101



Nearly all farmers had an eight day clock in a tall case, which occupied a prominent place in the front hall or the parlor; others had cheaper ones, fastened to the wall without any case. Many of them had also a "noon mark." As accurately as they could, they would make a mark on the floor at the south door, or on the porch, which, when touched by the shadow of the door jamb or a post, would show noon.

"Chasing Cars" non-allegorically

This letter responds to an essay by Steve Baer in the Winter 78/79 **CQ.** *Called "Chasing Cars," it wondered if the obsessive self-destructive behavior of dogs around moving cars might suggest a similar relation of humans to other technology.* *—SB*

Tell Steve Baer that his car chasing dogs are simply busy protecting their territory — as I am now mine!

When a car rolls by with some *other dog's piss smell* reeling off the tires — the dog has been challenged. If the car stops the dog goes right to the tires, takes a smell, then a simple squirt and his boundaries have been reclaimed from the intruder with no resistance. If the car continues down the road he charges after the car somewhat confused but proud to scare off the trespasser, who runs from the barks of warning, exhaust pipe between his wheels.

The lesson comes in observing the dog become addicted to chasing cars as the dog soon learns he's a winner every time. After each victory he prances proudly back to his spot head up and glancing from side to side for dog applause. Soon this dog's charisma attracts other dogs to march on his sides. At times it becomes a combined neighborhood war effort on smelly foreign tires. It's the flanking soldier dogs that die. Survivors remember the killer's scent. The grief in dog population is overwhelming but the futile effort forever continues, and the misunderstood enemy continues to come, as does man's.

Still alive, Love Sirius, Camino, California

The Art of Seeing

This book is Aldous Huxley's testimonial to the Bates method of "visual re-education" which apparently saved Huxley from blindness when eyeglasses and medicine no longer helped. My own vision has never been bad enough to confirm that degree of benefit, but I can report that my astigmatism, which used to make the headlights of an oncoming car at night look like a whole convoy, now is a thing of the past. In other words, you don't have to be half-blind to benefit from the exercises and relaxation techniques described in this book: they're claimed, plausibly, to be preventative as well as therapeutic. The obvious analogy is with jogging — but in this case, because of the intimate link between eye and brain, some of the exercises are largely mental.

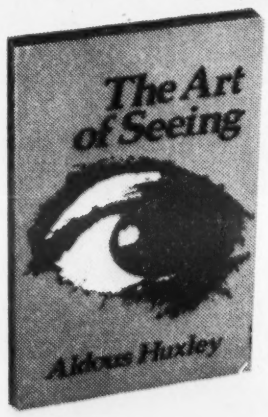
Most optometrists still treat imperfect vision as an incurable, exclusively physical condition. Their normal strategy is to neutralize optical defects, rather than to try to identify and eliminate whatever might be causing the defects. (Wearing eyeglasses is not curative in the sense that you are expected to regain perfect, unaided vision eventually. In fact, as Huxley points out, if your eyes should spontaneously improve, your glasses will make your sight appear to worsen, because your eyes will no longer be exhibiting the specific defects that your lenses were designed to correct.) Dr. Bates, on the other hand, starts with the most common causes of bad eyesight: excessive muscle-tension in and around the eyeball, interfering with the eye's natural ability to accommodate itself to different seeing situations; bad seeing habits, including problems focussing your attention and correlating your thought-stream with what you're looking at; and ignorance about what eyes need in the way of exercise and rest. And Bates's goal is to cure: perfect vision without glasses. His program may not be the last word, but his approach is so much more sensible than the traditional optometrist's that you wonder how they ever got so far off the track.

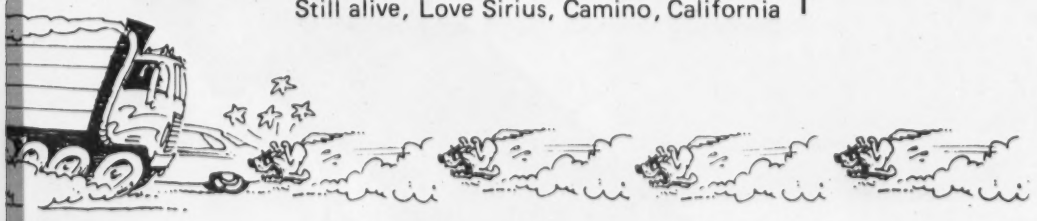
The only equipment you need are a large wall calendar, a pocket-sized calendar, a set of dominoes, a pencil, familiar surroundings, a good light-source, and a bit of self-discipline. Some of the exercises can be done without any of these. Some are so simple-sounding (cupping your hands over your eyes and thinking pleasant thoughts) that they require practice and produce very strange physical sensations. The one big problem is that you really cannot let your mind wander while doing them — unless that's part of the exercise. They require dedication. The best thing about them — and about Huxley's book — is that they make you aware of skills and relationships that you normally ignore: the way seeing and breathing interact, how familiarity makes you more receptive to detail, how attitude-dependent vision really is.

The book is somewhat repetitive. Huxley overexplains because he's trying to be reassuring to the reader and to show his gratefulness to Dr. Bates. But this is a minor flaw compared to the payoff — better vision and greater self-awareness. *—Robert Horvitz*

The Art of Seeing
Aldous Huxley
1942, 1975; 158 pp.
$4.95 postpaid from:

Montana Books
1716 N. 45th St.
Seattle, WA 98103
or Whole Earth





STRANGE FISH, STRANGE SPORT

by Michael Goc

THE WATER GLOWS dimly fluorescent in the shanty from which all sunlight has been barred. Stirred by under-ice currents untouched by the wind, it laps softly at the sheer ice walls which bound it. Crouched above the water, silently, in the dark, the spearman waits.

He is not an Arctic tribesman preserving a primeval art faithfully passed down from Neolithic ancestors. He is more likely a mechanic from Oshkosh, who has used a chainsaw with a blade four feet long to pierce a hole the size of a doorway in the February ice of Wisconsin's Lake Winnebago.

He has thrown over his opening a sealed up windowless shack. For only the pale emerald neon of the lake water may light his vigil. Any other light would make it impossible to see into the hole and spot the great lumbering fish that is his prey. And he must be silent. For any racket may travel down through the ten feet of water beneath the ice and alarm the fish. So he sits – bundled up like a Neptune of the North – alone in the dark with a six-foot metal trident hung on a nail banged into the shanty's wall, distracted only by the hiss of the portable heater warming the shack and the patient presence of a bottle of peppermint schnapps inside his coat pocket.

All we know about Michael Goc is that he lives near Friendship, Wisconsin and has the style (laconic) it takes to get through those winters.
–SB

The lake sturgeon – make that his desire to kill a lake sturgeon – has brought the spearman out onto Winnebago's frozen surface. They – the sturgeon – are North America's largest freshwater fish. Three hundred pound monsters have been hauled out of the Great Lakes. Fish almost half that size are still regularly yanked out of Winnebago – the only place where it is still possible to do so.

However, sturgeon are unusual for more than just their great size. Partakers in an evolutionary experiment conducted approximately five hundred million years ago, sturgeon followed a path not taken by man's earliest ancestors or even by any other bony fish.

In the dim recesses of the Devonian past, the vertebrate line forked. One tine evolved into the primitive air-breathing lungfish, and the lobe-finned coelacanth whose descendants eventually dragged themselves out of the primeval seas to begin life on land. All amphibians, reptiles, and mam-

There are eight classes of vertebrates. The important split occurred within the class of higher bony fish (4). Why is the sturgeon — with its cartilaginous skeleton — not part of class 3? Sturgeon, unlike sharks and rays, evolved from ancestors with bony skeletons. Their cartilage is a degenerative characteristic — a withering away of bones — unlike that of the true cartilaginous fishes that had no bony ancestors.

mals have evolved from this line. The other tine of the vertebrate fork remained in the water and diversified into the thousands of species of fish now abounding in Earth's seas.

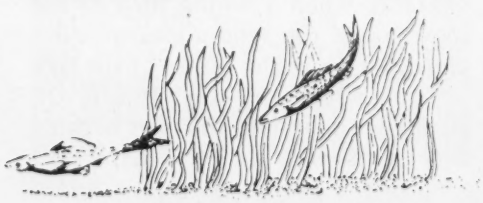
Before this second evolutionary line settled into its present course, other routes – paths not taken – were explored. One of these was an attempt to abandon the bony skeleton. This the sturgeon did, quite successfully. By and large there are no bones in the sturgeon's body. There is no segmented spine or rib cage as in other fish. Tuna, trout, even the little bluegill the boy catches from the boat dock have more bones than the sturgeon.

The sturgeon successfully abandoned the bony spine. But the neural cord – that fragile length of impulse bearing matter whose anterior end buds into the brain still requires some support. So the sturgeon evolved next to it a complementary strand of cartilage – the notochord. Later vertebrates abandoned the notochord, choosing instead to encase the nerve cord in the bony armor we call the spine. Only the sturgeon clung to the alternative that worked.

In addition the sturgeon's copious muscles, body organs, and the caviar-producing ovaries are hung on a frame of cartilage. They are then covered by a heavy skin of bonelike plates. Not scales in the modern sense, these plates do not overlap like the piscine shingles of other fish. Instead, so finely woven are they that to the touch a sturgeon is smooth-skinned, and firm. The surface feels like a fresh bacon rind, and is as tough and pliable.

Some species – most notably insects – have evolved an exoskeleton. Like beer in an aluminum can, fragile innards are carried in and protected by a hardened case. Soft-skinned vertebrates resemble skyscrapers. Lightly sheathed, they require a heavy interior frame. By comparison, the sturgeon's construction is a triumph of compromise. Soft skeleton, heavy skin – so triumphant a compromise that the fish have not altered their structure in five hundred million years.

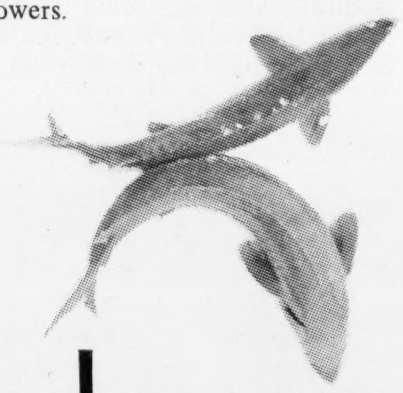
The question is why did the experiment end with the sturgeon? Why did every fish that evolved after it not follow the boneless path? Why is the sturgeon stuck out on a dead end branch of the evolutionary tree – bypassed by other fish – yet surviving, even until recently thriving, alongside them?



Box 428, Sausalito, CA 94965

Curiously enough, and fortunately for us, at the same time the sturgeon evolved its static path, the other tine of the vertebrate fork was taking the dynamic route out of the water. While the sturgeon clung to its niche, the first ancestral amphibians nudged their way ashore.

Does the sturgeon then tell us that in evolutionary terms it does not pay to be too successful? That evolution is a paradox – to fail is to succeed because failure requires alteration, adaptation, while success is unchanging? All those millions of years ago the sturgeon evolved a successful form and clung to it. Other fish failed to do so, were forced to continue evolving – as were the first amphibians who left the sea, their reptilian descendants, and their mammalian followers.



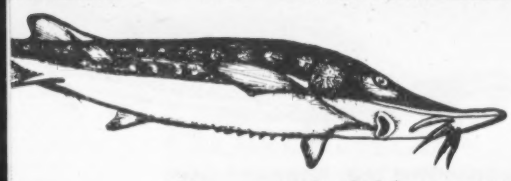
I'm crazy for tryin'
I'm crazy for cryin' and
I'm crazy for . . .

whangs out of the juke box in the Harbor Bar on Lake Winnebago near Pipe, Wisconsin. Pipe is a town as abbreviated as its name whose single yearly moment of glory under the sun comes when that star hangs low in winter sky at sturgeon spearing time. Most of the year the road ends in front of the Harbor. But in winter, when the ice is thick enough to support their weight, vehicles continue right past the bar and out onto the lake. A plow is hired to keep the winding loop of the road clear of snow and the spearmen drive out to their shacks. Only in the years of heavy snow – as in 1979 – is there a problem with the ice road. Then a freak warm day in February can melt enough snow to cover the road with two feet of water. That's water enough to soak a pick-up's engine or freeze its brakes and strand its owner on the melting ice a half mile away from shore.

Sturgeon spearing is a sometime solitary sport. Usually only one person mans the shanty. But he almost always has a partner to alternate shifts with. And that custom is why the jukebox plays all weekend in the Harbor and why it and all the other saloons at the ends of roads that don't end at the water in the winter count the sturgeon season as one of their most profitable.

The Winnebago spearmen are a close fraternity. They're tribal in their relationship with each other and the fish they patiently wait for. There are no rich outsiders, no out of town sportsmen buying their way into the club. Almost all of the spearmen live less than fifty miles away from the lake. Most were introduced to spearing by their fathers and they now

Wis. Natural Resources Dept.



take snowsuit-clad boys out onto the ice and into the dark shack, where young mouths drop open when the eyes above them gaze into the green phosphorescent water.

To the native Great Lakes tribes the sturgeon was the king of fishes. Many tribes depended on sturgeon almost as totally as the Plains Indians relied on the buffalo. The comparison is apt not just because the Indians used every part of the sturgeon from horny head to pointed tail, but also because sturgeon came very close to being little more than finned aquatic cattle.

Mature sturgeon have no teeth. The mouth is located not at the end of the head. There are no clattering, flapping jaws on the tip of the tapering, turned up snout. Rather, the mouth is on the bottom of the head. Almost perfectly circular, it resembles a valve of the human heart, clucking open and shut to admit the fluids necessary for life. Scouring the bottom, grazing steadily on a never-changing menu of plankton, sturgeon migrate over the shallow saucer of the lake. Moving from place to place, heading wherever fodder is plentiful – like the buffalo – plodding and slow – also like the buffalo, the sturgeon is an easy target for the hunter, and for extinction.

In the 1860s Sandusky, Ohio, of all places, was the largest freshwater fish market in the world. Provided it was already smoked and at least four feet long, a sturgeon was worth 25¢ in Sandusky. In twenty years so many Great Lakes fish had poured through the Sandusky market the price for smoked sturgeon fell below 15¢ a fish. They were so abundant that sturgeon carcasses were used to fuel the boilers of lake steamers. Oily flesh burned well, was easier to procure than wood, cheaper than coal, and sturgeon had only a few bones to clog up the ashpits.

The comparison with the buffalo is again apt. Great Plains hunters were known to shoot an half-ton bison solely to procure its tongue. The rest of the huge carcass was left to simmer in the prairie sun. At the same time on the Great Lakes, two hundred pound sturgeon would be netted or speared, even axed in the shallows, and the bodies rendered to produce cheap oil for paint. Or the fish's belly would be ripped open and that ancient boneless spine and the bladder would be ripped out. They were processed into isinglass that Midwest housewifes used to stiffen homemade jellies. The bodies, gills still spasmodically quaking, would be left to rot on the beach. For sturgeon were considered trash fish, unfit to eat.

Michael J. Goc

Like cattle grazing a pasture, lake sturgeon follow their own paths over the Winnebago bottom. Locating one of these highways is one of the few skills a spearman might master. Might is the correct word. For in snowy winters the shanty's location is determined not by any trail the spearman may think the fish are following but by the wind. Where it has blown away enough snow so that the shanty may be set down on or near the surface of the ice is the place – the only place – spearman can sit.

After the hole is cut, and the sixty cubic feet of slab is laborious shoved under the surface, the spearman sets/sits to his task. He may sprinkle leaves of macaroni into the hole to make a brighter bottom against which the dark fish will silhouette. Or sliced potatoes will do. Or aluminum pie plates with nails driven through to hold them in place against the flow of the current. Bright objects on the bottom also act as contrasting reference points from which to gauge the depth at which the fish is swimming.

There are lures, some carefully handed down from father to son and invested with all the mythic powers of the fisherman's tale. Cut out of wood in the shape of a comicbook fish, they are not bait in the conventional angling sense of the term. For not even a two hundred pound sturgeon would eat anything so large as these foot-long garishly painted boards. They are only come-ons. Working just as well for other spearmen are three beer cans on a string.

The idea of a decoy appeals more to the spearer than the speared. Lures are supposed to entice the curious sturgeon, who has a whole lake of 137,000 acres to swim in, to the twenty square feet of clear water over which the spearman has deposited his shanty. Merely waiting for a fish to haphazardly lumber his way into view is not a pastime demanding of much craft. But luring a fish to the spear with an artfully contrived decoy or attracting a fish by deliberately jangling tin cans in the water implies some special skill, no matter how elementary. The invention and use of the decoy clumsily nudges this passive sport into the realm of activity, at least for the spearman.

Seductive lures or no, in reality sturgeon spearing is only a waiting game And a peculiar one at that. The deer hunter on a stand has a whole field of view before his eyes. There are so many distractions it may even be difficult for him to concentrate on his watch. But waiting for a sturgeon to swim beneath a shanty can become so boring that spearmen have been known to fall asleep on their chairs and not wake up until they hit the water.

The lake view from the tavern near Pipe is one of Siberian bleakness broken only by the grey dots of the shanties. White snow melds into cloudy sky and the fine line of the horizon blurs into mush as undefined as the runny snow underfoot. Leftover Christmas trees, as abundant in this area as snowdrifts, are set out in straight lines across the lake as far as the eye can see. They act as guidelines to the shore during blizzards when a wrong turn of the snowmobile can send a spearman out onto thin ice in the center of the lake – from which he won't return. On glaringly bright days the trees become dark spots on which to fix the eyes

and prevent the whiteout that can be just as much a hazard in Wisconsin as Alaska.

Inside the shanty no sunlight disturbs the spearman's watch. He sits half in stupor, struggling more with boredom than excited anticipation. If a fish does appear, the spearman must hastily decide if it is at least four feet long. If not, it is too small – a mere minnow by sturgeon standards, not even old enough to breed. Then he must patiently wait – as if he has not already waited enough – for the fish to nose his way past the spear. Sturgeon can't see behind and above them, so they are speared behind the dorsal. When the tip of that fin passes the hanging spear, when the fish's eye is blind to the thrust, the spearman silently unhooks his weapon and lowers it into the water. He has had ample time to gauge the depth – anywhere from eight to twelve feet is usual – and if the line on the end of the spear is tangled or knotted, it is now too late to free it. Without alerting the fish, the spearman slips the spear into the water, still slowly, still keeping it in hand. He must bend as low to the water as he comfortably can, then hurtle the spear. It is done with a quick wrist-flicking motion, not the all overarm thrust of a javelin thrower or of Melville's Queequeg. If thrown properly the spear will enter the sturgeon's back in one of the meatier places. The barbs will catch and stick in that sow-belly stick, the notochord severed. And the fish is as good as dead.

In half an hour the sturgeon lays on a scrap of greasy cardboard on the garage floor of the Wisconsin Department of Natural Resources office down the road from the Harbor Bar. The flicking tail, the blowing gills indicate the fish is not dead. Wondering why no one thinks of whacking the suffering animal on the head with a two-by-four, making death sudden, and – to human eyes – less painful only prompts memories of the Great Lakes fishermen of a hundred years ago. They routinely pitched an accidentally netted sturgeon into the woods, or piled them up on the beach and burned them.

Today no one wastes a sturgeon. Sliced into steaks the size of pork chops or chunked into blocks to be skewered up in backyard smokehouses, sturgeon are no longer thrown away. Nothing that comes so hard, nothing that requires the toleration of so much boredom is casually flipped in the trash. And the spearman whose hands still tremble with excitement and elation as he signs the DNR registration card gives the lie to the game supervisor's bland statement that, "The sturgeon is a trophy fish, but most spearmen don't treat it that way."

How the sturgeon is treated by the DNR is perhaps of more importance. Lake Winnebago is part of the Fox River watershed – a rambling, twisting small river that flows into and out of the lake on its way to meet Lake Winnebago in downtown Green Bay. According to a warning on the pamphlet of the Wisconsin fishing regulations, fish coming out of the waters of the Fox above Lake Winnebago are to be eaten only once a week. The same holds true for fish taken out of the Fox below the lake. Pregnant and nursing women are warned not to eat them at all.

But there is no mention, no warning about fish coming out of the lake itself. PCBs, the pollutant inspiring the warning, are known to progressively accumulate in a fish's body. Logically, older fish contain more PCBs than younger animals. No fish hooked in the entire Fox watershed are likely to be older than even the youngest legally spearable sturgeon. If PCBs in dangerous amounts are in Lake Winnebago, as they are in the water flowing into it, and the water flowing out of it, sturgeon have probably accumulated plenty.

A male sturgeon requires fifteen years to become sexually mature. A female will not produce fertile roe until she is twenty-five. Even then she will spawn only every other year. Sturgeon have been caught whose age was estimated at two hundred years. With expectations of a lifespan like that, why should the sturgeon rush to breed?

There are probably sturgeon alive in Winnebago today that swam during the American Civil War, when their bodies were worth a quarter in Sandusky. The winner of the spearing contest sponsored by the Harbor Bar in 1978 dragged a one-hundred-twenty pound fish through the ice. It was probably seventy years old. It spent most of its life in an unpolluted lake. What about its children?

After a sturgeon is speared, he thrashes about wildly in the small pool of water. Above him all superfluous gear – heaters, chairs, six packs – are thrown out of the shanty. The wide open doorway lights up the shack and the equipment flying out of it is a signal to any who may be gazing out of the tavern window that a fish has been stabbed.

But what will serve to warn of the final demise of the sturgeon? In the twenty-five years she spends swimming in the polluted lake how many PCBs does an immature female soak up? Since it takes so long for her to mature, might not her ability to breed be destroyed before it has even developed? And how will we know, except when it is already too late to do anything about it? For there is no hatchery anywhere that has successfully bred lake sturgeon. After five hundred million years, is their time finally up?

Strange fish, the sturgeon. Strange sport, the spearing. Compared to what?

To the millions of bony fish who bypassed it on the evolutionary course.

To the millions of game fish produced in hatcheries and released in every waterway and pothole in the country.

To bass boat angling done from an easy chair parked next to a filled ice chest.

To simple fly fishing in waders on a sun-lit stream.

Compared to any fish and any fishing anywhere. ■

50 lbs., 1958, film processed Aug. '63. No one knows who photographer was.

Bibliography

The sport of sturgeon spearing: my own observation and interviews. Time spent shivering in shanties and swilling down beer, talking to spearmen.

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The Vertebrate Story, Alfred S. Romer, 1959

Comparative Anatomy of the Vertebrates, George Kent, 1954

Coldblooded Vertebrates — Fishes, Samuel F. Hildebrand, 1934

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Biological Science, William Keeton, 1967

Sturgeon history, Sandusky market:

Native Fish in Troubled Waters; article in *Audubon*, January, 1977

Familiar Freshwater Fishes of America, Howard T. Walden, 1964

Fresh Water Sport Fishes, Edward C. Migdalski, 1962

How to Be an Importer and Pay for Your World Travel

An excellent, readable complete and wise book.
—Michael Phillips

How to Be an Importer and Pay for Your World Travel
Mary Green &
Stanley Gillmar
1979; 181 pp.

$5.95 postpaid from:

Celestial Arts
231 Adrian Rd.
Millbrae, CA 94030

You are on a plane, daydreaming on your return flight from Nepal. Your suitcase is filled with potentially salable treasures. If you sell them your trip will be paid for! Then you remember that you've never sold anything in your life since the fourth grade school magazine drive. Don't panic. Your first sale may be to the friend picking you up at the airport, who, seeing the lovely antique coat you are wearing, wants one immediately. How convenient that you just happen to have one in your luggage and offer it to her, for a price above your cost and considerably below the cost in a retail store. That was easy. She was a friend. Now she is also a customer.

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Many small museums have shops attached to them with items for sale from all over the world. You may be able to interest them in some of your purchases. The people working there most frequently are easy to approach as they are often there in a volunteer capacity. We find such people often have a real interest in the store and its merchandise.

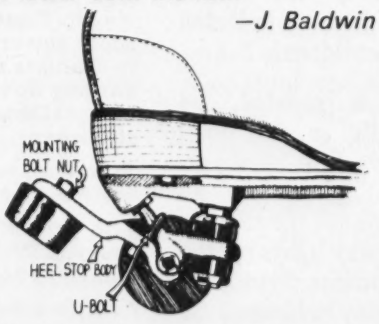
Anybody's Roller Skating Book

It's lunch time. A well-dressed man emerges from an attorney's office, locks the door behind him, and stoops for a moment. Bright red wheels pop out of his shoes, and he skates away, presumably to a local restaurant. What the hell? He's just part of the rollerskate madness that is in the process of sweeping this country (and several others). If they aren't skating near you now, they will be soon. In some locales, it has clearly gotten out of hand. I recently attempted to walk through Golden Gate Park. I had to walk on the grass, and even then I wasn't safe from hurtling bodies on their way to a turf landing, often face down. Police say that there were more than 35,000 skaters in the park that day. If you'd like to know more than merely where to rent skates, this timely book will probably answer your questions. (It's by the well-regarded author of **Anybody's Bike Book** *and* **Anybody's Skateboard Book.***) For the very latest word, you'll have to frequent your neighborhood skate store; like their skateboard cousins, the new street skate technology is advancing faster than the media coverage. And then, of course, there's rollerskate disco, rollerskate Frisbee, skater's armor, and (inevitably) a host of recently-enacted antiskater laws. Join the fun!*
—J. Baldwin

Anybody's Roller Skating Book
Tom Cuthbertson
1979; 188 pp.

$1.95 postpaid from:

Bantam Books, Inc.
414 E. Golf Rd.
Des Plaines, IL 60016
or Whole Earth



To use this heel stop, you just put that foot forward, tip the toe up slowly, and lean your weight back as you slow down, so you don't pitch forward. It's easy to do, and you'll find that you can stop in a much more controlled manner than you could with a toe stop or with the T-stop, especially on rough pavement. The one trouble with the heel stop is that it adds weight to the skate. If you don't mind a little weight, use it. If you do, learn some of the other braking and stopping maneuvers, or be prepared to change your toe stops often.

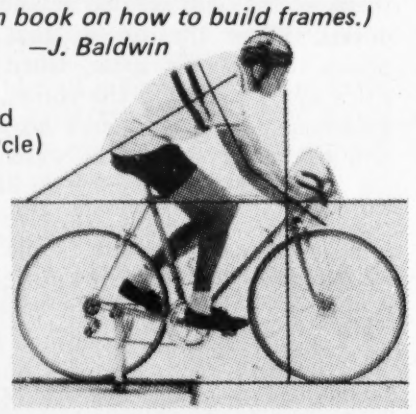
The Custom Bicycle

When a store-bought bicycle isn't as good as you are, then it's time to start saving your money for a custom job. Matching a bicycle exactly to your particular requirements has become a fine art, and riding a machine made especially for you can be one of life's rare moments of rightness. But what are "your requirements"? Can they be met? This book is a good place to find out. As you might expect, the authors review materials, design details, components, and gearing. Less expected, and most welcome, they personally interview a number of the world's better builders. There's also a highly detailed chapter on fitting the beast to your physique. Illustrations abound. I'm sure that some of their information is controversial, but so what? This book combined with your experience should enable you to order what you need. (Note that this is not an instruction book on how to build frames.)
—J. Baldwin

The Custom Bicycle
(Buying, Setting Up, and Riding the Quality Bicycle)
Michael J. Kolin and
Denise M. de la Rosa
1979; 274 pp.

$8.95 postpaid from:

Rodale Press
33 E. Minor
Emmaus, PA 18049
or Whole Earth



Determining length of the stem (handlebar Position 3). The stem is correctly sized if a plumb line from the nose drops approximately 1 inch behind the handlebars in position 3. The elbows should be slightly bent. Notice that the back is lower than 45 degrees in Position 3. The rider's weight is comfortably divided — 45 percent front, 55 percent rear. The arms are relaxed and the rider's weight is supported by the arms and shoulders combined. There are no acute bends in the back.

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Rule of thumb: If the gear you have selected is too high, your legs will fatigue before your lungs. If the selected gear is too low, your lungs will fatigue first.

Regarding Birdman

Dear Mr. Baldwin,

Regarding the Birdman blurb in the Fall '79 **CQ**: I thought it was neat too — it reminded me of those childhood dreams in which I miniaturized myself to fit into a hundred different gliders and rubber-band airplanes. So I sent away for the info packet, which turned out to be long on gloss and romantic imagery (". . . man's link to freedom . . ."), and short on useful data. I sent them a letter asking about a dozen questions not answered or even hinted at in the brochure, included a self-addressed and stamped envelope, and heard not a thing. This was in December, 1978. In the January issue of **Sport Aviation** appeared a letter from an irate Birdman fan who had been "fully paid for about three years" but had yet to receive any parts. He wanted others in the same fix to contact him with an eye to united action. I've heard nothing more since then.

I don't trust these folks, but there are many alternatives. The growth of the powered hang glider and ultralight aircraft field lately is nothing short of explosive (bad word?), and there are at least a couple dozen designs on the market that cruise between 25 and 50 mph, have engine shut-down and power-off soaring capability, use miserly two-stroke engines, can be trucked about easily, etc., **Sport Aviation** is a pretty good source of information on them, if you don't mind the Ole Boy Network flavor of the mag. (You have to be a member of the Experimental Aircraft Association to get **SA**. Costs about $20/yr.)

Tom Prugh
Kettering, Ohio

NEW LIFE IN OLD MAGAZINES

ESQUIRE *has been positively rescued from the grave of its founder Arnold Gingrich (died 1976), though not by Clay Felker. Felker arose from his own ashes (***New York***'s Murdoch takeover), returned to the declining* **Esquire** *where he had worked long before, and proceeded with glamorous advice and abundant publicity to turn tarnished gold into glistening shit –* **Esquire Fortnightly.**

When that ego bubble popped, along came a couple of dudes who looked even worse. Young cats, Phillip Moffit (ed.) and Christopher Whittle (pub.) – their prematurely self-congratulatory proclamations of new **Esquire** *glory made me sick and sad. It was wasted sickness and sadness; they pulled it off.* **Esquire** *is now a joy to read – true to the best of its tradition of high quality journalism and literature but intelligently leaving behind the worst of its smart-ass celebrity-baiting, lame cartoons, and embarrassing back-page advertising. In its day the old* **Esquire** *commanded the best names in the business. That is happening again – Gay Talese, Tom Wolfe, Truman Capote, Adam Smith, etc. The quality of product is high and consistant; now let's see if this bunch can find and elevate young talent.*

A spin-off of **New York** *in mid-70s,* **NEW WEST** *was long regarded cynically by us slightly less-new westerners. "Won't last two years," I said. Wrong again. After a couple years finding its balance,* **New West** *seems here to stay. It's doing good investigative journalism (most recent and sensational is on home nuclear weapons manufacture) and does a fair job of access-to-good-things coverage. What I'm still missing is much sense of the physical, cultural, rural coast – the bioregion. That* **New West** *seems limited to politics and media suggests that it has more to outgrow of its New York origins.*

On the other hand, the other good new Southern California publication **WET** *has advanced sharply from the specific to the general – from "gourmet bathing" to new wave anything. Bearing no similarity whatever to* **Interview**, *it does for L.A. what* **Interview** *does for New York – keep salt water on the exotic displays of exotic life in the creative tidepool.* *More on this on p. 124.*

As for **MOTHER JONES**, *I got so used to sniping at its radical chic predictability and unwholesome suppression of two-way argument that when it sneakily got better, I didn't notice. Maybe it's the new lady head-editor, Dierdre English. Anyway the tone is more open and more effective, and their recent (Nov. '79) full-issue coverage of U.S. corporate "dumping" of our dangerous products into overseas markets is a story I wish to hell we'd thought of.*

HISTORIC PRESERVATION *used to be a well-meaning and well-doing newsprint tabloid from the National Trust for Historic Preservation. Now it's a flat-spined four-color slicky, more in keeping with the treasuring sensibility. Unfortunately its subsidized transformation knocked the competition* **American Preservation**, *out of existence. How about a good new Radical Preservation magazine?*

–SB

Esquire
Phillip Moffitt, ed.

$15 /yr (12 issues) from:

Esquire Subscriptions
1255 Portland Place
Boulder, CO 80323

New West
Jon Carroll, ed.

$15 /yr (biweekly) from:

New West Magazine
Subscription Dept.
Box 2965
Boulder, CO 80322

WET
Elizabeth Freeman,
Exec. ed.

$8 /yr (6 issues) from:

WET
P.O. Box 1017
Venice, CA 90291

Mother Jones
Dierdre English,
Editorial board member

$12 /yr (10 issues) from:

Mother Jones
1866 Haymarket Square
Marion, OH 43302

Historic Preservation
(bimonthly magazine)
and
Preservation News
(monthly newspaper)
both

$15 /yr. from:

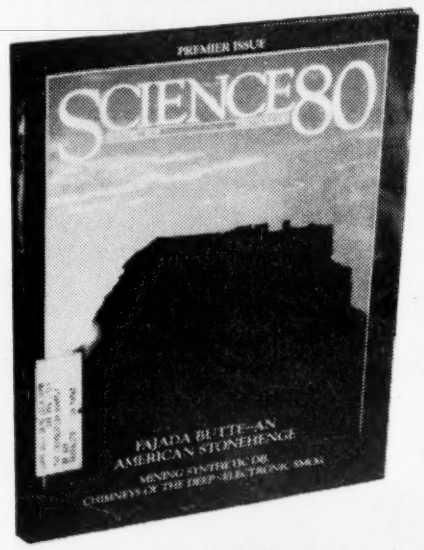
National Trust for
Historic Preservation
740-748 Jackson Place, NW
Washington, DC 20006

Content Style Consequence

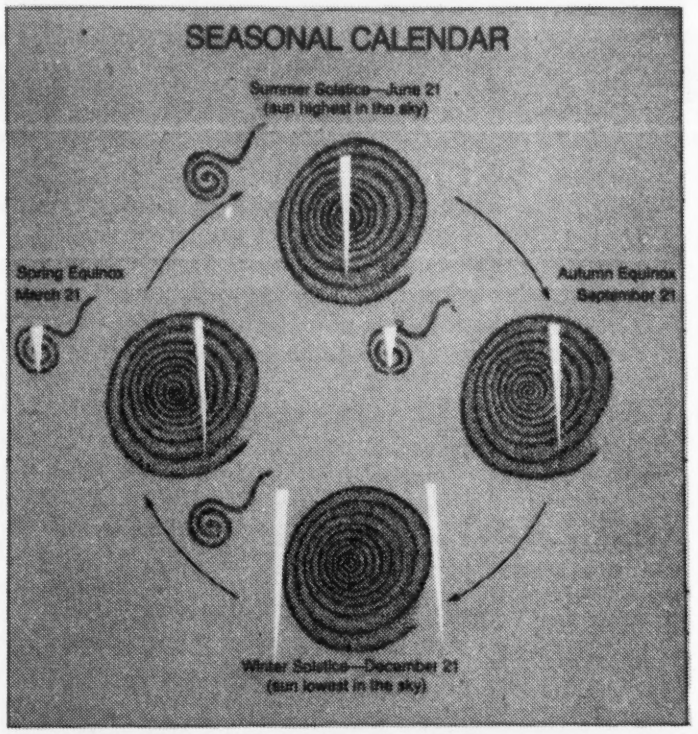
Science 80

For the lay reader it may become the best science magazine in print. So far we only have one issue by which to judge this carefully considered infant brother of **Science,** *both published by the Olympian "triple-A-S" — the American Association for the Advancement of Science. For handy comparison this Fall both* **Science** *and* **Science 80** *had cover stories on Fajada Butte, the exquisitely subtle sun calendar made by rather early Americans on a Southwest cliffside. For me the* **Science** *treatment, thick with technical detail, was a mildly interesting skim. But reading the article that* **Science 80** *titled "The Anasuzi Sun Dagger" and described so — "A chance discovery of a stunningly sophisticated solar marker in New Mexico rivals the unveiling of Stonehenge" — I found myself buying it. I was wowed, inspired, proud for my continent.*

So it went throughout the issue. There're recognizable heavyweights here — Lewis Thomas, Carl Sagan, Lynn White, Jr. — along with people I've never heard of writing very well indeed. Of real news, science provides about 70% these days. I hope that **Science 80** *moves up from bi-monthly to monthly soon.* —SB



Science 80
Allen L. Hammond, ed.
$12 /yr (bimonthly) from:
Science 80
Subscription Dept.
P.O. Box 10790
Des Moines, IA 50340



The Chacoans built irrigation systems with canals and small dams to collect and channel the ephemeral runoff.
And they constructed a remarkable system of hundreds of miles of roadways, the full extent of which is only now being documented through the use of such space-age techniques as remote sensing and analysis. . . .
Several features of the roads are unusual. Many of them are 30 feet wide. For people who traveled exclusively on foot, this seems an extraordinary width. They are well surveyed and engineered. Great quantities of topsoil were scraped from the surface and mounded along the their edges, and in some places stone masonry curbs were erected. The roads are perfectly straight for miles at a time with a frequent and somewhat puzzling disregard of topographic obstacles. Causeways were built over low spots. When the roads had to ascend or descend a mesa wall, broad stairways were cut into the sandstone, many of them still clearly visible (and climbable) along the sides of Chaco Canyon.

•

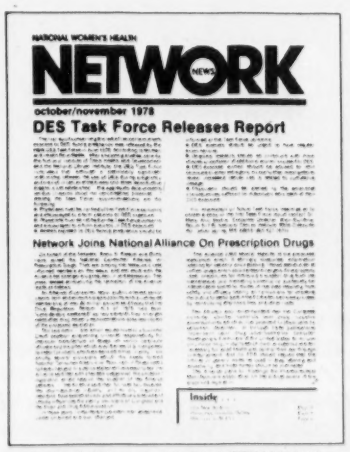
It is a shocking and significant fact that the relatively new disciplines of the history of science and technology have developed primarily in the humanistic departments of our universities. In the few major scientific and engineering establishments that have given them some place, they are generally regarded as "ornamental branches of learning," marginal to reality. This is the more curious because major schools of law, medicine, divinity, and business maintain specialists in the history of their profession, emphasizing not only internal developments but also its interplay with altering cultural contexts. Do scientists really believe that their guild uniquely transcends both time and the changing frames of life? If so, they are in peril of losing touch with the society from which both their recruits and their money come.

Periodicals of Public Interest Organizations

A basketful of 97 do-good magazines briefly reviewed. Take your concern (guilt?) shopping — old age, medical, consumer, women's, energy, appropriate, food. citizen, etc. A measure of how broadly "public interest organizations" is interpreted is that we're included. —SB
[Suggested by Steve King]

Periodicals of Public Interest Organizations
(A Citizen's Guide)
1979; 54 pp.
$5 postpaid (to individuals, governments, schools and libraries)

$4 postpaid (to public interest/ citizen organizations)
from:
Commission for the Advancement of Public Interest Organizations
1875 Connecticut Ave. NW
Suite 1013
Washington, D.C. 20009



National Women's Health NETWORK News contains information for and about women activists working on women's health and health care issues.

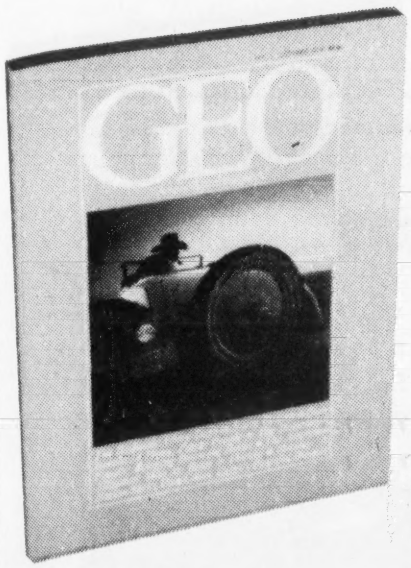
National Women's Health
NETWORK News

8 pp., bimonthly newsletter
$6–24 low income; $25 other individual; $35 health/women's group; $50 business or institutional memberships

National Women's Health Network
2025 I Street, NW #105
Washington, DC 20006
(202) 223-6886

There is news on such topics as drug research, homebirthing, legislation, health education, family planning, nursing home reform, mental health, occupational safety and employment discrimination caused by workplace hazards. The newsletter also contains notices of meetings, pertinent resources, and excerpts from other publications relating to current problems and controversies.

Founded in 1976, the National Women's Health Network works to "build a dynamic, responsive women's health presence around the country."



Dance garb in New Guinea

GEO

At last some competition for **National Geographic**. *Not in circulation yet (200,000 subscribers versus 6,000,000) but definitely in quality of color photographic evocation of other people's reality and surreality. And* **GEO***'s range is impressive — one issue has the Sinai desert, a Lower East Side boxer, incredible photos of biochem warfare among insects, Barcelona, New Guinea face painting, and a huge hydropower project in Quebec. The magazine has an interesting blend of American and European professional styles (much* **GEO** *talent comes from* **Stern** *in Germany). If I were a free-lance photographer or writer, I'd be trying to get published in* **GEO**. *The graphics are good enough that a move to a larger format might open up even more visual possibilities. The writing has a bit of what-are-you-going-to-do-about-it? I'd like to see more. Nothing consistent, mind you, just more. —SB*

Content **Style** **Consequence**

GEO
H. J. Kaplan, ed.

$36 /yr (10 issues) from:

Neodata
P.O. Box 2552
Boulder, CO 80322

Some soft, comprehensible middle ground that should rest between opposites is missing in Sinai. There is an unmitigated collision of night and day, color and colorlessness, desert and sea. Beliefs, convictions, even hunches there become howling zeal. Wars are all unimaginable bloodbaths. And when they emerge from the desert, the travelers, soldiers, and prophets who have come to Sinai for 5,000 years have always debated whether it is the place most forsaken by the god of the time or the place where God lives.

Magazines that ought to be

I think there's a need for a magazine for and about and of Technologists. Not a science-tech slick, but more of a political magazine, full of gossip about the world and its technology and what decisions are being made. What are they doing at AT&T? What are the implications for people who use telephones? What's the story behind it? The trade magazines do this sometimes, but always in a sea of jargon, with the result that energy technologists don't know what happens in computer technology, etc. And the "average person" (which is me, really, I have no science or technology background — my background is in English Literature) is completely lost. I'd probably want to widen it, start talking about the technologists of mental institutions, etc. The idea is that the most horrible and most wonderful technologies were designed by people. They designed them that way for a reason. If people start understanding some of these political decisions, which really affect the world much more than what we normally think of as political decisions — like who's elected — then . . . then people will understand politics a lot more. Both the writers and the readers. The typical mass-media approach to this idea is ignorant at best.

And I'd also like to do a newsletter for nation-wide artists, writers and creative folk. Something to help people make connections and work together. This is tied very strongly for my on-going plan for a Creative Network, to collaborate on a magazine or series of books that deal with all the points of view (or many of the points of view) on a complicated strange problem, juxtaposing them and trying to work out some kind of relationship between all the points of view within the print form. Sounds vague, doesn't it? . . .

People my age don't really seem to have a cultural identity of their own. We're sort of in between things. I never feel any sense that people my age automatically have something in common with me. And the people I'm friends with (and work with) have increasingly been people with a wide range of ages.

While most people my age haven't been indoctrinated by the standardly accepted ways of doing things, many of them are rushing to indoctrinate themselves in those ways as quickly as they can. I have to resist the temptation myself.

Have you considered using the **CQ** section on magazines to query **CQ** readers on what types of magazines they have always wanted to see? (That don't exist now.)

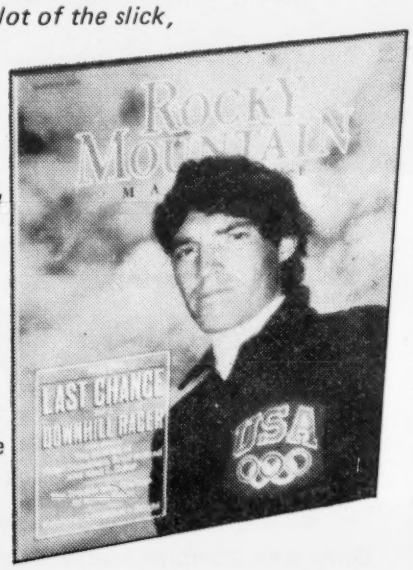
—Art Kleiner
Oakland, California

Content Style Consequence

Rocky Mountain Magazine

In the gaping geographical space that separates east-coast from west-coast journalism, **Rocky Mountain Magazine** *has staked out a sizeable chunk of turf. Given the growth and changes occurring in this seven state area, it is a region ready for its own magazine. The endless flak the* **CQ** *takes for being a California magazine misses the point that almost every magazine has a regional bias. Better to have a positive and overt sense of place than to succumb to unconscious provincialism.*

Rocky Mountain Magazine *is trying to be consciously regional, and as a part-time Coloradoan, I welcome the attempt. Among the seemingly obligatory pieces on Robert Redford, Georgia O'Keeffe, and the hottest ski slopes, are works of fiction by local writers and an occasional hard news story. A lot of the slick, full-color style came with editor Terry McDonell when he set up shop in Denver earlier this year after leaving* **Outside** *magazine as it was merging with* **Mariah.**



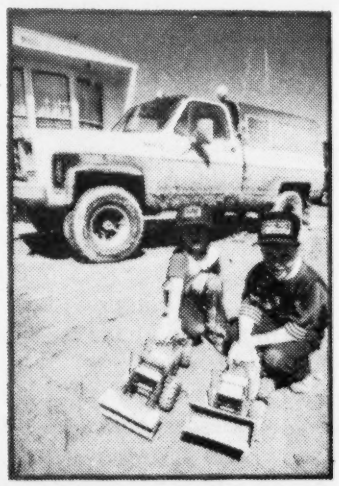
Rocky Mountain Magazine
Terry McDonell, ed.
$15 /yr (10 issues) from:
Rocky Mountain Magazine
P.O. Box 2403
Boulder, CO 80302

Any new magazine must win an audience, and the strategy for one like this with no clearly defined political stance is to try to appeal to everyone. This attempt to have things both ways shows up in the editorial thumbing-the-nose at moneyed Texans (an easily identifiable and much disliked group throughout the region) while the restaurant and wine reviews are attracting exactly such affluent people.

But the major division visible in **Rocky Mountain Magazine** *is between the Coors Cowboy and the reality that this entire region is rapidly and irrevocably becoming a national sacrifice area to our insatiable demands for energy. Concentrating too much on the mythical old west, even when the attempt here is, frequently, to debunk it, ignores the real news of momentous changes, which deserve a better play than they have so far been getting.* —*Richard Nilsen*

While agreeing with Richard's argument, I think it's a better magazine — thumbs up on every count. —*SB*

"Oh, and of course we had a lot of snow," she says. "The coal mines and the oil rigs they just go on in any weather. They go right on working with whoever shows up, shorthanded. But back in January when it got at its worst, nobody came to work at all. So the oil people used helicopters. First time I ever saw it happen. They flew the boys out from Gillette in helicopters and then flew them back, just like over in Vietnam."

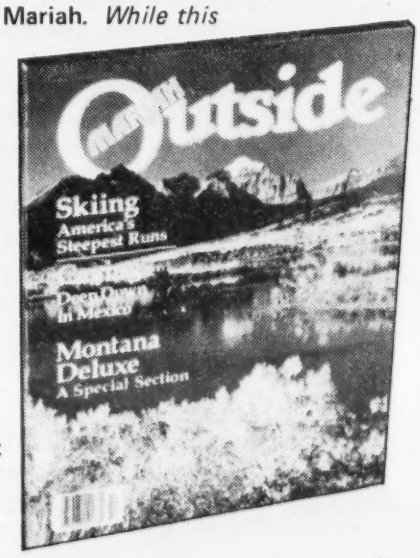


Content Style Consequence

Mariah/OUTSIDE

There's a non-delivery somewhere in the premise of this magazine. Like **High Times**, *it's aimed at the young affluent paraphernalia buyer, though in this case the high is exposure rather than chemistry. The gear ads are present in abundance, but tough gear evaluation is not. We hear about intrepid trips, and regional noticing (Montana, Jamaica), and occasional environmental good-think, but far too little of the hardware argument that outdoor maniacs revel in.*

Outside *was once a scion of* **Rolling Stone.** *Cut from there it was grafted onto* **Mariah.** *While this commercial jugglery was going on, the brilliant, quirky* **Mountain Gazette** *died. A magazine that carries advertising can go two ways. It can print stuff so honest, various, and compelling that advertisers will ride along no matter how chagrined (such as* **New Yorker***) or it can succumb and be an advertising medium. This one gave up. It should be mailed free to subscribers.* —*SB*



Mariah/OUTSIDE
Lawrence J. Burke, ed.
$12 /yr (6 issues) from:
Mariah/OUTSIDE
P.O. Box 2690
Boulder, CO 80322

The standard joke about the climate in Montana goes like this: "What's the weather like up there?" "Nine months of winter and three months of poor skiing." Actually, the potential for snowfall at any elevation above forty-five hundred feet is exactly 365 days a year, except during leap year, when it's 366. . . .

When I began writing 30 minutes ago, it was a hot, sunny afternoon. Ten minutes ago I raised the shade a little higher. Five minutes ago I turned on the light. Moments ago a freak blast of air shrieked against the house, knocking some stacked lumber against the study window and exploding it inward. Shards of the window are now down inside the Smith-Corona. Through the open frame I hear a cottonwood go down over by the creek. . . .

During the winter, which means anytime from late October until early May, such thermal upsets can be lethal. Years ago an old rancher advised me, "Don't ever get in your car and drive to town without enough warm clothing to survive the night, no matter how nice a day you think it is." It takes about 15 minutes to drive to town.

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I think the best applications for Thinsulate will be in areas where its trim profile is a great advantage in itself, like supergaiters, which must be thin to avoid snagging a passing crampon. But while I can still afford it, I'm buying down.

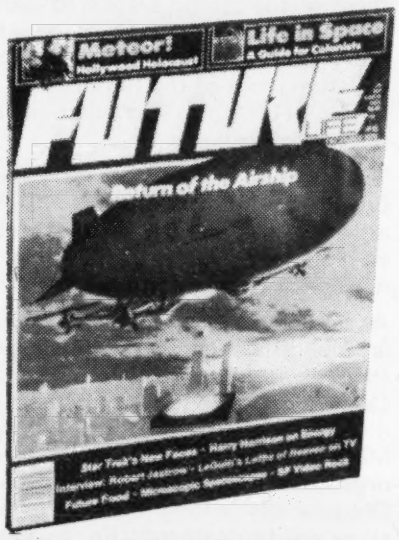
Content Style Consequence

Future Life

What **Omni** *grandiosely fails at is accomplished with considerable zest by* **Future Life** *— hallucinating the future. Disguised as a science-fiction film fanzine and thereby saved from pretentiousness, this magazine ambles with intelligent curiosity among the fantasies, new technologies, and scientific notions of the day. It's aimed directly at the young, whose youthful enthusiasms will most underlie the human programs of the actual future. I like it. —SB*

Future Life
Ed Naha & Robin Snelson, eds.
$13.98/yr (8 issues)

from:
Future Life
475 Park Ave. South
New York, NY 10016



Among Skylab's many achievements, the now-defunct space laboratory provided scientists with a wealth of material concerning our solar system's most potent energy source: the sun. Along with the informational data, which will take years to fully analyze, the project provided us with computer-generated photography as beautiful as it is fascinating.

The George C. Marshall Space Flight Center has prepared a collection of these truly spectacular photos entitled **A New Sun: The Solar Results From Skylab**. The full-color, 198-page volume also includes an easy-to-understand explanatory text by John A. Eddy. It is available by ordering document number NASA SP-402 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402; the price is $10.50.

•

Le Guin, a fairly outspoken critic when it comes to inferior screen science fiction, believes that *The Lathe of Heaven* will transcend all genre labels. "What makes this different than most science fiction presentations," she says, "is the strength of its characters, particularly George and Haber. What happens between those two men is marvelous to watch. I think the show will appeal to people like any good drama would. I hope people will appreciate the intensity of the plot.

"People shouldn't tune in expecting outer space because they're going to get inner space. You're not going to see Lorne Greene on the screen in a cape. This will disappoint some people and please others. But that's how it is, dealing with what people call 'science fiction.' Science fiction on film is way behind science fiction in books. It's been 30 or 40 years since SF readers were interested in • pop-eyed monsters and screaming maidens. I think it's about time science fiction films caught up . . . showed a little real thought and a little real feeling."

Le Guin doesn't mind referring to *Lathe* as a science fiction story but adds that this label might be misleading. "A lot of people see science fiction as the 'look out, don't do *that*' strain of fiction," says the author. "People are going to look for the *message* of this show. I hate to use the word message because you make the whole thing sound like a fortune cookie. We struggled not to make this show too heavy. Not to make it too serious. I think that both the book and the movie make a point but it's not an easy one to boil down to one sentence. We definitely say something in the movie but you have to figure out what it is. You have to come to the conclusion. I guess you *could* say it's about dreams and nightmares. Let's say it's about what happens when the American dream becomes the American nightmare.

Outlaw magazine sampler how-to

Many **CQ** readers are, like myself, "eclectic information gatherers," interested in taking the pulse of the world, but almost always restricted by time & financial obligations from a luxury "full field" approach.

One major characteristic of the publishing field, particularly true of the popular press which includes most magazines and periodicals, is REDUNDANCY. It is *not* necessary to read every issue of **U.S. News, Scientific American**, or even **CQ** to get an overview of the subject area of the publication — a single issue gives the drift of thinking and research (too often it *is* a 'drift' instead of a current) in that area, plus some specific examples of recent and interesting milestones.

Applying this idea to the odious direct-mail solicitations used by so many magazines and periodicals ("No Risk — Trial Subscription — After you receive the first issue, if you are not completely satisfied, simply write CANCEL on the invoice and owe nothing . . ."), I have sampled a garden salad of publications, at no cost other than a few seconds to fill out the forms, one to order and one to cancel. Everything from **GEO** (slick photos) to the **Kiplinger Washington Letter** (DC politics) to **Games** magazine, **U.S. News, New Roots, Harvard Business Review, Short Story International** (good bathtub reading — 15 minute fiction), **Book Digest, Futurist**, etc., etc.

There are a few rules to successfully playing this game, which I offer to interested readers:

1. Read the offer carefully — some are *not* trial subs, but merely offer an incentive. Once you sign, you gotta pay, at least for the issues you receive.

2. SAVE all postpaid reply cards from magazines (or duplicate offerings) you receive. This is the key to no-cost reading.

3. Save all bills in one place — a used manilla envelope — together with ppd. reply cards. That way you don't forget to cancel one.

4. Be polite in cancelling. They gave you a magazine and postpaid cancellation notice at their expense. Courtesy is the least you can return.

5. Prepare to be surprised — some stuff you never thought you'd like . . . and magazines you never heard of will send offers once you become identified on mailing lists as a subscriber to numerous magazines.

The reason magazines offer free trial subs is to gain new readers, and to bolster their circulation figures. Consequently, you *are* giving something in return — it just does doesn't cost you anything. Some magazines send six to eight issues before cancelling, with no fuss about billing you. The invoice often arrives before the first issue — stash it with the reply cards in the manilla envelope.

Particular magazines, periodicals or newspapers may elicit a sustained interest which justifies reading every issue — thus a subscription or regular visits to the library. The library, in fact, is an excellent place to research some of the periodicals that don't offer trial subs, or don't use direct mail solicitation, and may consequently escape your notice.

All in all, it takes a few minutes a week. I can usually tell at a glance whether I want to read it when it arrives, and have no compunctions about tossing it in the recycling box if it fails to offer anything of interest.

Yours for happy reading,
Tom Keefe
Pownal, Vermont

Serials Review

When I asserted, a few issues back, that we and **Library Journal** *are the only magazines that review magazines, I asserted in ignorance.* **Serials Review** *has been doing it in spades for five years (there is also* **The Serials Librarian** *— "of interest primarily to libraries," says our suggester). What a pleasure to see really detailed examination of periodicals, how they differ and what they are good for. A regular feature, "Serials Digest" by David Walker Lupton, is pure informative gossip of what's changing on the magazine scene. This is a quarterly that could direct you knowledgeably down some unexpected paths.*

[I'm quoting their recent review of **CoEvolution** *not to beat our drum in your ear but to demonstrate their view on something you're familiar with. It is easily the most accurate portrayal of* **CQ** *we've ever seen in print — typical* **Serials Review** *coverage.] —SB*

[Suggested by Stephen Rilke]

Serials Review
C. Edward Wall, ed.
$25/yr (4 issues)

$7.50 /single copy from:
Pierian Press
P.O. Box 1808
Ann Arbor, MI 48106

CoEvolution Quarterly. 1974—. Q.$12.00/yr. POINT Corp., Box 428, Sausalito, CA 94965. Editor: Stewart Brand. Circ. 35,000+. Indexed: Alt.PressInd.; NewPer. Ind. LC 74-647123. ISSN 0095-134X.

A decade ago, Stewart Brand shuffled together a prodigious number of ideas and products and created the first *Whole Earth Catalog*. The last issue appeared in 1971 and three years later Brand founded the *CoEvolution Quarterly*. It was inspired by the idea that evolution of creatures results in complex and subtle relationships among them. Brand writes: ". . . the moral of the coevolutionary perspective is its imperative to always look one level larger and one level finer (at least) than where you are. . . ."

Reflecting this unifying formula, *CQ* is a sophisticated descendant of the *Catalog*. Every fan will recognize the similar organization and the same personalized approach of the reviews. Even the openness of the staff has carried over with gossip and complete financial reports. *CQ*'s sophistication is apparent in its disciplined and coherent presentation of widely eclectic ideas, problems, and techniques.

Each issue is organized into ten or so sections and most issues emphasize a particular subject. For example, a recent issue began with a 90-page analysis of broadcasting, while another examined solar heaters used at the turn of the century. Typically, think pieces are followed by several capsule reviews of related books, periodicals, tools, and other items. Articles range from an indictment of the metric system to using road kills in research, and from science fiction by J.G. Ballard to remarks on death by Dr. Elisabeth Kubler-Ross. Authors are a satisfying mix of the famous and the unknown. A comic strip by R. Crumb and other cartoon contributions round out the offerings.

There are no advertisements. Despite the low budget this prohibition must cause, the editing, layout and printing are uniformly meticulous and readable. *CQ* features sturdy covers and strong binding, but the paper is only newsprint quality.

As a book review medium of the kind libraries favor, *CQ* is an excellent companion for a quiet evening by the fire. In a year, about 180 titles were described in the familiar *Catalog* fashion: full bibliographical information, an illustration, an excerpt, and a very brief signed review. Many reviews are written by staffers. The reviews are organized into the same subject sections as the articles. Occasionally, a long review is printed or a book review essay will be featured. For example, a special story-telling essay reviewed 15 titles. Timeliness is respected and most books are only a year or two old. The table of contents serves as a rough title index, but otherwise access is best achieved by browsing. *CQ* is a good, but limited, source for reviews of periodicals and pamphlets.

The clientele of most public libraries is as eclectic as the makeup of *CQ*. It is highly likely that a small but dedicated readership will materialize for this unusual periodical, especially in rural libraries. And it's a good value for the $12.00. Brand reports that *CQ* prints about a half million words a year. Some back issues are still available. Indexing is currently provided by *New Periodicals Index*, itself a very recent effort. On occasion, *CQ* publishes collections of its articles as separate books.

Woman's Choice

Whenever I hear the word "share" I would reach for a gun if I had one. "Share" is frequently followed by the word "feelings," and I have enough of my own thank you; please do us both a favor and repress yours.

Given that prejudice, and other maleness, how pleasant to be won over by this female confidence of a magazine. It's tiny, unillustrated, regular as menses, and fascinating as reading other people's mail. Here the ladies convene in print at Louise Lacey's invitation (she researched and wrote **Lunaception***) to discuss one subject or another in highly personal terms. Depression; success; friends; humor; fear (and courage); power; dreams; love letters; good marriages. A mailorder woman friend. —SB*

Woman's Choice
Louise Lacey, ed.

$18 /yr (12 issues) from:
Woman's Choice
P.O. Box 489
Berkeley, CA 94701

Cultural development being what it is, it is not at all surprising to me that, at a time when it is socially and genetically adaptive for us to have fewer children, and for some of us not to have any, we should happen to be relearning the value of friends.

One of the most significant values developed during the '60s was that of the recognition of the priceless quality of friendship. "Families of friends" bloomed, and some basic human need, long ungratified, finally found an outlet.

In fact, I have a personal theory that fully half the appeal of cults is that they fulfill this basic need, and I think that their current proliferation has been caused by that '60s recognition which was not then satisfied. Those who learned to make deep friendships in sufficient quantity were not susceptible to cults. Others were.

—Louise Lacey

I live in the embalming rooms of an old, retired mortuary. I like West Berkeley. It is very peaceful here. I moved here from Pacifica where I lived in a two-story tract home with my little girl, my blind mother, my boyfriend, my flea-tortured dog and various transient friends. There was Paddy O'Sullivan, the one-armed drunken Irish poet who wore a chartreuse top hat and a shocking pink cape. He roared that he was Padriac Seamus O'Sullivan, the last of the heterosexual poets. He'd shriek, "I can outdrink 'em, outfight 'em, outfuck 'em and outforget 'em. Arrrgghh!" He'd wave his prosthetic hand menacingly. The neighbors crossed themselves and shut their doors. There was Peter Pussydog who resembled an unnatural offspring of a mating between Allen Ginsberg and Toulouse Lautrec. He leered at the young girls and remarked that they were ripe at the age of eight.

—Dierdre Evans

READINGS ON THE FAR RIGHT

by Jay Kinney

Reading the other camp's publications may be considered beyond the call of duty for most of us, judging from the glaring lack of right-wing magazines so far in **CQ***'s magazine section. I've renewed my subscription to all three of these publications at least once, so I must fine something worthwhile in them.*

THE SPOTLIGHT is the weekly tabloid of the Liberty Lobby, the super-conservative Washington D.C. pressure group. I first read of Carter's Trilateral Commission connections here, before they were mentioned anywhere else. I also found out who in Congress was for and against the "Canal Giveaway," and I keep up on the latest doings of Anita Bryant, the Tax Revolt, and the Gun Grabbers. Isolationist and anti-Zionist, they maintain that the Holocaust didn't happen. Not recommended for those with sensitive political stomachs. However keep in mind that **The Spotlight** *claims 200,000 in paid circulation, a number that beats any comparable Left paper 10 to 1.*

THE AMERICAN SPECTATOR, on the other hand, is less immediately threatening — at least at first glance. It's a witty monthly much like a **NY Review of Books** *for Conservatives. Regular fare tends to include choice roasts of vulnerable liberals and shrill reformers, paeans to Mencken, and raised eyebrows for everyone else. One of my favorite magazines, politics be damned.*

THE COUNCILOR derives its name, so I'm told, from the days of the infamous White Citizens' Councils, which probably guarantees that a subscription to this paper means your name will appear on someone's list in Washington. Yes, it's often racist, anti-semitic, and paranoid, but for advanced students of far-right conspiracy theory it's a treasure-trove of trivia. Tid-bits about the Illuminati are stuck between "I told you so" articles on the Kennedy Assassination and geneological rundowns on the Rothschilds. Editor Ned Touchstone maintains a detached yet folksy tone throughout, reminiscent of the Old South's allegedly genteel xenophobia.

(Note: It is extremely hard to use this system to rate these publications in that, say, a "thumbs up" in "consequence" for the **Spotlight** *would convey that I do think it is important to read and has a significant effect on the world — but would also imply approval, which is not the case. How does one rate simultaneous fascination and horror?)*

The Spotlight
Bernard R. DeRemer, ed.
$16/yr (51 issues) from:
The Spotlight
300 Independence Ave. S.E.
Washington, D.C. 20003

The Councilor
$5/yr. from:
The Councilor
P.O. Box 3567
Shreveport, LA 71103

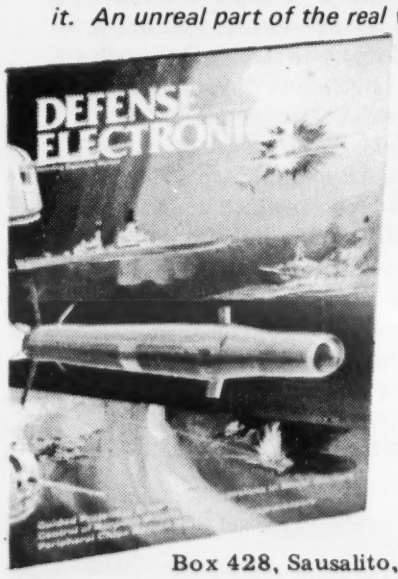
The American Spectator
R. Emmett Tyrrell, Jr., ed.
$12/yr (12 issues) from:
The American Spectator
P.O. Box 877
Bloomington, IN 47402

Content Style Consequence ?

Defense Electronics

Here's a fascinating bit of Americana, the trade journal of the "old crows," those who dwell in the esoteric realm of electronic counter-measures and counter-counter measures and . . . It's all like something out of Marvel comix, our ray meets their surveillance device triggering their electronic decoy cloud, figured out by our computer system, triggering our smart missile with its deception technique.

All a bad joke from one perspective, the fabric of national survival from another. Expensive either way you look at it. An unreal part of the real world, worth pondering. Great ad graphics. —SB



Defense Electronics
Richard Hartman, ed.
$20 /yr (12 issues) from:
EW Communications, Inc.
1170 East Meadow Dr.
Palo Alto, CA 94303

The Soviets are continuing to make strides in using laser-generated underwater sound for close-in communication between submarines and aircraft. The technique for this type of communication involves directing a modulated CW Nd/YAG laser beam on the ocean's surface, causing heating and thermal expansion of the water. Research is being conducted at the Lebedev Institute, and latest developments in the project have considered moving the laser-illuminated beam over the water's surface. Recent experiments involve using rotating mirrors to move the laser beam over the water's surface at subsonic and supersonic speeds, with the laser pulses harmonically modulated to 100% at 100 kHz in the experiments. Earlier reports had the Soviets considering direct laser-beam communications between subs and aircraft.

PIG IGNORANT:

A child could follow the logic of ha'pennies, thripenny bits and tanners and many, by the time they were thirty-five or forty, had quite a good command of the whole subject.

LIFE AGAINST LOGIC

Decimalisation and Metrication in England

by Peter Laurie

Upon hearing that the British Metrication Board had been shut down, I asked New Scientist *columnist (ret.) Peter Laurie for the inside story. I leave it to you to determine if this is the inside story.* —*SB*

S. Brand, the charming and competent editor of CQ, writes to me from time to time where I seeth 'within the British Experiment.' He treats of this matter and that, but there is always a leitmotif: decimalisation. What he thinks of it, I know not, but he is deeply interested in the British version. Would I please, the cry wafts from the shores of San Francisco Bay, write something about decimalisation.

Well, OK. I can say this right off the cuff, that of the problems currently confronting us British, decimalisation is low, to negligible, in importance. That is not to say it has no effects. Years after we became divisible by ten, one still reels back in horror from a loaf of bread at six shillings (in my youth six pennies – one twelfth as much – was considered dear). As you probably know, the British do talk a lot about the weather because we don't like to know too much about each other, and an acceptable substitute for weather, when it runs out, is to mention how much such things as loaves, or fishes or rides on the subway now cost in old money. Quite meaningless, but it gives one a satisfactory feeling of indignation.

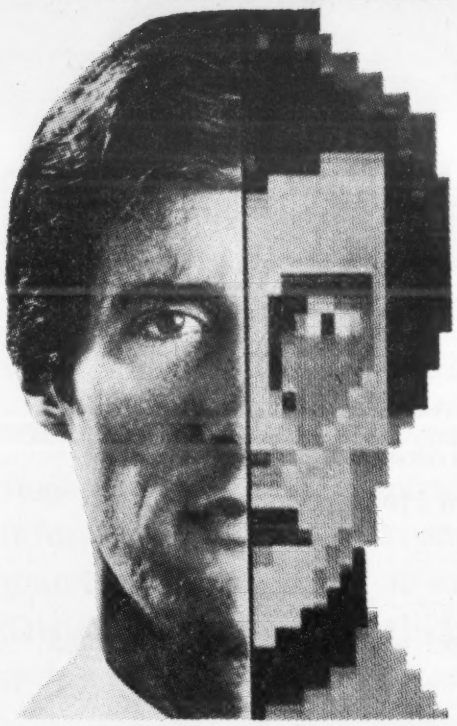
'Why so?' I hear the younger readers ask, and I had better perhaps explain how things used to go on. In the old days, when everyone in Britain spoke with a Cockney accent and was very brave though bombed by the puny Luftwaffe we had a perfectly satisfactory currency. Two farthings made a ha'penny, two ha'pennies made a penny, three pennies made a thripenny bit, two thripenny bits made a tanner, and a tanner was also a sixpenny bit, two sixpenny bits made a bob, two bobs made a two-bob-bit or florin, two and a half bobs or shillings made half-a-crown. Two half-a-crowns should have been a crown, but wasn't: this was the only flaw in a system of other-wise transparent simplicity. Four half crowns, five florins or ten shillings made ten bob and two ten bobs made a pound.

From time to time one was privileged to see a five pound note, which in the good old days was a piece of thick white paper about the size of a small bedspread or large tablecloth on which a calligraphist had written, in flowing penstrokes, a comforting message from the King and the Bank of England. There were said to be notes of higher denomination but no-one could afford them except used-car dealers.

So much for proletariat money. The aristocracy had a different, though related, currency: guineas. A guinea was a pound and a shilling, and although it seems now to be an even more unwieldy unit than the others, it was very logical. It had a tip, honorarium, *pourboire* or drink built into it, and that at the economical rate of 5%. The Sir kept the pounds and the peasant had the shillings in the guineas. To this day, British barristers charge their clients in guineas and their clerks have the shilling as a 'perk' or incentive. When a blood stallion stands at stud, the groom who helps the act of nature go forward in an orderly manner gets the shillings in the guineas of the stud fee. Or, if you are haggling with some blue-blooded youth over the sale of a sports car, you can say off-handedly, 'Guineas, of course, old fellow,' and it takes a strong-minded youth to refuse so charming and olde-worlde an extortion.

Well, so matters stood generally until the disasterous day that we were decimalised. All this simple structure was swept away. A child could follow the logic of ha'pennies, thripenny bits and tanners and many, by the time they were thirty-five or forty, had quite a good command of the whole subject. In place of units which were divisible by 2, 3, 4, six and twelve, we had a unit suggested by the logic of the R/D department: 10. Ten pence make a shilling, ten shillings make a pound. That's all there is to it. If you buy ten things for 10 p (pronounced lavatorially: 'pee') you pay 100 pee or 1 pound. It is so simple that people still, 8 years afterwards, can't understand it. Some old ladies refused to cope and starved to death because they couldn't wrestle with the new system. There must be more to it than that, they thought and you think, as you consider 100 items at £2.86, get £286 and reject that as being much too easy. In the old days there was a respectable academic subject called 'Commercial Arithmetic' which was concerned with topics like 57/64ths of £1,296 7s 11½d (in the old law, British ships were divided compulsorily into 64 shares, and if you owned all of a ship, the law would say you had sixty four sixty-fourths). This sort of sum often arose in the course of a maritime nation's business and people made whole careers out of working only a few of them.

Kuras-Alterman Corporation



Kuras-Alterman Corporation

Life (and measure) is analog. Logic (and counting) is digital. We need both. The one emphasizes relation; the other, precision.

The immediate effect of decimalisation was that overnight things cost twice as much. Although the new, decimal pound was worth the same as the old, heavy-arithmetic pound; the new shilling was worth two of the old. So mesmerised was the British public by the change that few shopkeepers bothered to alter their price tags, with the result that world inflation started and seems set to go on until the end of time.

Another tricky innovation was the 50 pee piece. This is an odd looking coin with seven corners. The cunning thing about it is that each edge is an arc of a circle whose centre is the opposite corner, Why on earth? you ask; but there is a reason. Because of its odd geometry, the thing will roll like an old-fashioned round coin.

It was much touted at the outset of decimalisation as a technological breakthrough: a square coin that would roll down slot machines. But –but, there are still no slot machines to take it.

More sinister, to our chauvinist eyes, is the similarity between the new 10 pee and coins such as the French Franc or the German Mark. They are the same size and weight and the similarity speaks eloquently to the paranoid of the projected European uni-currency. No doubt as soon as the pound gets itself into health for the first time since the War, we shall pour its goodness into supporting the feckless French peasant. Equally sinister is the close resemblance between the credit card issued by our Barclays Bank (we have only five banks in Britain, and they tend to be big businesses) and the Bank Americard.

Ignorant but suspicous persons wonder if there is not more behind all this counting-on-the-fingers-up-to-ten-it's-so-simple-a-child-could-do-it stuff than at first meets the eye.

I am happy to report, though, that decimalisation in other areas of the crumbling British Way of Life has met with indifferent success. At least the decimal pound is still a British pound. But ever since Napoleon rationalised continental measures for weight and distance, metres and kilograms have smacked of tyranny to us. The Decimalisation Board would dearly love us to give up weighing in pounds, hundredweights and ounces; it entreats us to buy our milk by the decilitre and our jam by the gramme, but little comes of it. In fact, a pot of jam I bought yesterday was said to contain 108 gm or 3.81 oz. No doubt these quantities are chosen to be even more widely divisible than the 12 pennies in an old shilling. Some snivelling companies, who deal in Europe, quote prices per tonne as well as proper prices per ton, but since no one has the faintest idea what 'tonne' means, this has little effect either.

The one trade that has gone wholeheartedly metric is the building and timber industries. The reason is simple. Previously, wood was sold by the yard or foot; now it is only sold by the millimetre. If you want a piece of wood 304.8 mm long (1 foot) you can't have it, so yah! You have to buy a metre's worth, and, of course, a metre of wood costs considerably more than a yard's worth even though a metre is only 91.44% as long. "Sorry, Sir, decimalisation Sir, thank you Sir.' So successful has the timber industry been in this deception that until I just did the sum, I would have said that the metre was the longer.*

There was, at one point, an elaborate plan to decimalise and metricise the whole of our industry in planned stages. But, it seems, that is now in disarray, half completed. Admiralty charts, which used to be the world's most trustworthy things (in the view of British mariners, anyway) are now half and half. They show depths in metres instead of fathoms – which can be dangerously misleading, but on shore, the land height is in feet. To make things more confusing, distances are in nautical miles or minutes of latitude, neither of which measures has much to do with kilometres or even statute miles.

But are we downhearted?

NO!

The whole business shows once more that the Planner, the Antichrist of the modern world, cannot overcome. As usual, his stifling designs founder in the perversity and unpredictability of human affairs. He decrees boring unity: the world goes its own way, making even worse confusion out of his plans for simplicity. In Britain there is a very real hatred for Planners. When, in the street market outside my windows, the stall traders baffle the tourists by asking for money in the old style: 'Four and a tanner, ducks,' they are striking another blow in the unending guerilla war of life against logic. ■

*** 'Tis longer. Thank you for demonstrating the on-going confusion that metrication brings. People, Mr. Laurie is a *science* writer. —SB**

Dear Pig,

It's interesting that the British, who usually know better, have replicated a distinctly French mistake – that of confusing the logic of counting with the life of measuring. The French Revolutionaries thought that everything with numerals was the same and so decreed metric measure.

Counting by tens has a certain digital convenience. (Even the abacus is decimal.) But measuring happens by easy fractions – one-half, one-third, etc. Hence the twelvishness of time and short distance measure.

As Gregory Bateson asserts in his ***Mind and Nature****, number is fundamentally different from quantity. "You can have exactly three tomatoes. You can never have exactly three gallons of water."*

America has been spared some of this confusion by the fact that our money and its counting was already decimal when "metrication" loomed. Our calculating and measuring did not get lumped under that one category mistake "decimalization."

Famous French logic. I never forget the French anthropologists of the 19th century, who studiously avoided native tribes and carried on their discourse with pure unsullied theory. I note that the Pol Pot regime of Cambodia learnt its theories in France. I observe the persistent French nuclear plant building and weapons testing.

Logic against life. –SB

THE ANTI-FORM FORM

This bit of folk art (there must be dozens of other manifestations circulating like anti-bodies in the American body politic) comes to us from Steve Baer, noted anti-bureaucrat. We've revised the form somewhat from what Texas art patron Stanley Marsh III printed, who did the same with what he got from Harvey Matusow, who bore some relation to *Oz* magazine . . .

Form OHID A744-D is intended to be used. You are invited to photocopy the pages and apply them wherever seems appropriate. —SB

NOTICE OF INTENDED ACTION AND RIGHT TO REQUEST A FAIR HEARING

(Real Letters)

ISABELLA KIRKLAND

WE ARE WRITING TO TELL YOU ABOUT THE ACTION WE HAVE TAKEN ON YOUR FOOD STAMP CASE.

YOUR APPLICATION FOR FOOD STAMPS HAS NOT BEEN APPROVED BECAUSE YOU FAILED TO APPEAR AT BOTH YOUR APPLICATION INTERVIEW APPOINTMENT AND YOUR RESCHEDULED APPOINTMENT.

IF YOU STILL WANT FOOD STAMPS, YOU MUST FILE A NEW APPLICATION.

ELIGIBILITY WORKER: Charita Dagcuta
State of California Health & Welfare Agency

Dear Charita,

I wrote you one month ago to ask you to cancel all proceedings regarding an inquiry only about food stamps. I made an appointment to apply which I cancelled because I did not really need the stamps. You guys are trying to cram them down my throat. Please stop sending me these officious letters regarding "my case."

Thank you for your attention and please please cancel all this stuff.

Sincerely, Isabella Kirkland

Dear Ms. Kirkland:

First, Charita's not here. Her ship came in and she got on it and is now en route to Bigger and Better.

Second, the letter to which you refer is from a machine which does these things pretty much on its own. We can't stop it, but even if we could, it would be illegal. The machine spews these letters out when legally required to. If we neglected to send you a letter saying we were not giving you food stamps, we'd be breaking the law according to the U.S. Senate.

And finally, this is our last warning to you: if you don't take these foodstamps we're going to come out there and cram them down your throat. We have people specially trained to take care of people like you who don't know what's good for them. You can't just 'inquire' about something. This is the *government* you're talking about, lady, not some Ann Landers outfit. You started it and you've got to live with it. So be easy on yourself. Take the foodstamps. After a couple of months, you'll like them. Trust us. And don't make us get rough.

Sincerely, Rocco, Recalcitrants Division
Non Assistance Foodstamps Program
City and County of San Francisco

Work Hard and You Shall Be Rewarded

White collar workers face a similar if less physical dehumanizing than the blue collar victims of "Factory" (page 4). Their ointment is the same — humor. A lot of it is sexual, conservative, racist, violent — releases, all — and often bloody clever. This book is a bit lightweight; the subject deserves better. —SB

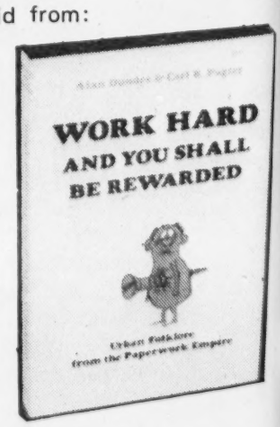
GUIDE TO EMPLOYEE PERFORMANCE APPRAISAL

PERFORMANCE DEGREES

Performance Factors	*Far Exceeds Job Requirements*	*Exceeds Job Requirements*	*Meets Job Requirements*	*Needs Some Improvement*	*Does Not Meet Minimum Requirements*
Quality	Leaps tall buildings with a single bound.	Must take running start to leap over tall buildings.	Can only leap over a short building or medium with no spires.	Crashes into buildings when attempting to jump over them.	Cannot recognize buildings at all, much less jump.
Timeliness	Is faster than a speeding bullet.	Is as fast as a speeding bullet.	Not quite as fast as a speeding bullet.	Would you believe a slow bullet?	Wounds self with bullet when attempting to shoot gun.
Initiative	Is stronger than a locomotive.	Is stronger than a bull elephant.	Is stronger than a bull.	Shoots the bull.	Smells like a bull.
Adaptability	Walks on water consistently.	Walks on water in emergencies.	Washes with water.	Drinks water.	Passes water in emergencies.
Communication	Talks with God.	Talks with the Angels.	Talks to himself.	Argues with himself.	Loses these arguments.

Work Hard and You Shall Be Rewarded
(Urban Folklore from the Paperwork Empire)
Alan Dundes and Carl R. Pagter
1975; 1978; 223 pp.
$3.95 postpaid from:

Indiana Univ. Press
10th & Morton Sts.
Bloomington, IN 47401



FORM OHID A744-D

SIDE 1

To: _____

Date: _____

Return Form OHID A744-D to:

Reference: _____

Regarding your form number _____ requesting certain information to be filled in and returned to your office, I would be happy to oblige you. However, I cannot do so until the request is made on the following form (OHID A744-D). If you will kindly fill in the information required, and return it within ten (10) days, I will be able to respond to your request.

Thank you for your cooperation. I remain,

Most sincerely,

INSTRUCTIONS AND GENERAL INFORMATION

Form OHID A744-D must be filled out for credit of information you are requesting: No information credit will be allowed unless requested not later than the time prescribed for requesting said credit (including extensions). An information request by your organization must be made within ten (10) days after receipt of this form, and is allowable only if filed and post-marked prior to that date. Where the last day for such filing falls on a Saturday, Sunday or holiday, such act of filling request shall be considered performed in due time if performed on the next succeeding day which is not a Saturday, Sunday or legal holiday.

Information Gains or Losses:

1. Sale, exchange, or involuntary conversion of said information (including in certain cases uncomputerized information) and depreciable information if it is used in the agency, organization or business for more than six months, cannot be considered valid and or useful unless recontact with the individual is made.

2. In the case of tax information the period may be extended to one year.

Copyright: All information contained in the form which you are requesting to be filled out is copyrighted by the individual who commits the information to your form. Any use of the information must be within the copyright laws, and proper royalties must be paid, and permission must be obtained in advance, prior to use.

Note A

Some form fillers find it convenient to increase their withholding of information to avoid declaration responsibility. If you do so, make sure the information balance due on (OHID A744-D) will be equal to that information being requested by you in your form number:

Those who make an estimated information declaration totalling more information than requested on this form can reasonably expect said gross information to be exceeded.

Note B

If you are a non-resident alien who requires a declaration of estimated information you must allow added time for language translation and adaptations thus required.

Please print or type

1 Date: _____

2 Agency (Government or private) requesting information: _____

3 Address _____

Street Number _____

City or Town _____

County/State – Country _____

4 Department requesting information: _____

5 Head of Department: _____

6 Name(s) specific individual(s) making request: _____

7 Will information be fed into a computer:

Yes ☐ No ☐

8 If Yes, Name, Make _____

Model Number _____

9 Who will have access to information: Agencies, Government and/or Private, and individuals – please list all names.

_____

_____

If additional space is required, staple supplemental sheets to Side 2 when returning this form.

If unknown, please state: Not known ☐

10 Can the information you request be corrected or amended in future?

Yes ☐ No ☐

Return Form OHID A744-D to address as your reference above. Thank you.

Please Turn Over

Please staple supplemental sheets here

FORM OHID A744-D

SIDE 2

11 If information is being fed into computer, will a run-off of material/information in computer form be made available to me for proof reading, for correction of possible errors, before such information is finally used:

Yes ☐ No ☐

12 If No, please explain:

13 How long will such information be on file before being destroyed or updated? Dates – Year, month, please.

14 Specify excluded services or sources:

15 Summary of information depreciation:

16 Information surcharge: State amount in dollars

17 Alternative computation of information:

18 Miscellaneous general rule:

Yes ☐ No ☐ if intending to use.

Method of Using Miscellaneous General Rule: All information furnished on the form shall be expressed in understandable terms except as provided by computer limitations as accounted for in (7) and (8). Where it is necessary to convert from human to computer terms, attach a statement describing in detail how this conversion was effected.

19 Gains or losses from sales or exchange of information:

a. Net Long Term Gain (Loss):

b. Carryover Gain (Loss):

20 Excess account information: Enter information here with regard to yourself and the five highest information getting employees within your organization. In determining the five highest information getters, computer time allowances must be added to their totals. However, the information need not be submitted for any employee for whom the combined amount is less than one form per work day, or for yourself if your information quota allowance is directly controlled by the information covered in question (6). See separate instructions for definition of 'information quota allowances.'

Do you claim a deduction for information allowances connected with:

a. High degree of computer control:

Yes ☐ No ☐

b. Sick Leave or Holidays

Yes ☐ No ☐

21 Income distribution: Indicate the highest and lowest pay rates within your organization.

a. Highest $ Position

b. Lowest $ Position

c. Ratio (highest/lowest)

d. Explain

22 Information average: If your information request has increased substantially this year, it may be to your advantage to figure your information-before-computing under 'the information averaging method'. Obtain Information Schedule BB5-OLE from this office.

Yes, if needed ☐ No ☐

23 Who may file or fill in form OHID A744-D: Any individual, government agency, estate, trust, or corporation, including large and small business corporations (or Limited Companies) claiming information for any purpose. Ostensible purpose of the information you are requesting:

True purpose:

If additional space is required, staple supplemental sheets above when returning this form.

Note: Members of certain religious faiths: If you have conscientious objections to information form requests by virtue of your adherence to the established teachings of a recognized religious sect of which you are a member, you may file a statement to obtain said information exception.

For official use only: Do not write in this space.

Date received:

Date answered:

Information evaluation quota:

DIENAM coding for future use:

a. OBLT b. Z5R3

c. OB-CDB d. SI - S3C - R7E - W - (9)

Claimed evaluation reevaluated

Other comments:

Have you enclosed your check?

Have you answered all the questions? Yes ☐ No ☐

Accepting the click of the bathroom door's latch as a respite from the confusion beyond it, the material for the Contemplative Library near the toilet should be light, non-sequential, random, vari-colored and of many moods. I suggest a few titles. —JA

BATHROOM LITERATURE

by Jan Adkins

Bartlett's Familiar Quotations

Endlessly and instantly entertaining, its chronological format gives it an order of contemporaries, and its brief entries remind a writer of the power in the short, terse statement. It has a truly useful index and the best cast of characters in publishing.

Bartlett's Familiar Quotations

John Bartlett
1968 (revised and enlarged edition); 1750 pp.

$17.50 postpaid from:

Little, Brown & Co.
200 West Street
Waltham, MA 02154
or Whole Earth

A good marriage is that in which each appoints the other guardian of his solitude. —Rainer Maria Rilke

The Oxford Book of Literary Anecdotes

A literate, 1300 year issue of **People** *magazine, catching famous and obscure ink-fish at their wittiest and at their most foolish, with their wigs off, their pants down, and at the hour of their death. A book that greatly expands your list of ideal dinner guests.*

The Oxford Book of Literary Anecdotes

James Sutherland, ed.
1976; 500 pp.

$2.95 postpaid from:

Pocket Books, Inc.
1230 Ave. of the Americas
New York, NY 10020
or Whole Earth

—

If parents would only realize how they bore their children!
—George Bernard Shaw

—

Colley Cibber, they say, was extremely haughty as a theatrical manager, and very insolent to dramatists. When he had rejected a play, if the author desired him to point out the particular parts of it which displeased him, he took a pinch of snuff, and answered in general terms — 'Sir, there is nothing in it *to coerce my passions.*'

—

When Tennyson entered the Oxford Theatre to receive his honorary degree of D.C.L., his locks hanging in admired disorder on his shoulders, dishevelled and unkempt, a voice from the gallery was heard crying out to him, 'Did your mother call you early, dear?'

Brewer's Dictionary of Phrase and Fable

Dipping into **Brewer's** *to net examples for this review I was caught by the undertow and surfaced again (by an act of stern will) an hour later; it is a dangerously seductive book. It is an encyclopedic reference to the maddeningly obscure phrase, the curiously opaque line, and the abstruse story.* **Brewer's** *is a necessity for reading books your grandfather read, explaining the vernacular that was part of his language but is, alas, lost to us poor solemn birds; Grandpa's Billingsgate* (vide **Brewer's**) *and high-blown metaphor is reduced in his grandchildren's time to a very few Anglo-Saxon verbs and some earnest Freudian similes. This book, taken with an infusion of Bret Harte's and Damon Runyon's filigreed stories, is guaranteed to bring color to your language and whimsy to your correspondence. It lacks only a hole bored through the pages, upper left, to be the ideal privy counselor, the best bathroom book published.*

Writer and illustrator Jan Adkins is responsible for such worthy books as **The Art & Ingenuity of the Woodstove, The Craft of Sail, Toolchest: A Primer of Woodcraft,** *etc.* —SB

Brewer's Dictionary of Phrase & Fable

Centenary Edition
E. Cobham Brewer and Ivor H. Evans
1971; 1175 pp.

$19.95 postpaid from:

Harper & Row Publishers, Inc.
Scranton, PA 18512
or Whole Earth

—

Bulling the barrel. Pouring water into a nearly empty rum cask to prevent it leaking. The water which gets impregnated with the spirit is called *bull*. Hence the seaman's phrase *bulling the teapot* (making a second brew).

—

Googly. In CRICKET, a deceptive delivery depending on hand action by the bowler in which an off-break is bowled to a right-handed batsman with what appears to be a leg-break action. *Cp.* CHINAMAN.

It was invented and developed by B.J.T. Bosanquet from 1890 and he used it against the Australians in 1903. In Australia it is called a "BOSEY"

[Those capitalized words are the undertow: references found elsewhere, and they have references found elsewhere, and pretty soon it's two a.m.]

—

He steals the goose and gives the giblets in alms. He amasses wealth by overreaching, and salves his conscience by giving small sums to charity.

—

Rag water. In thieves' jargon, whiskey.

—

Billingsgate. The site of an old passage through that part of the city wall that protected London on the river side, named from an early property-owner in the area. The site of a fish-market for many centuries, where porters were famous for their foul and abusive language at least four centuries ago.

—

Boycott. To boycott is to coerce by preventing any social and commercial dealings with a person, group, or nation. The term dates from 1880, when such methods were used by the Irish Land League under Parnell, who advocated that anyone taking over a farm from an evicted tenant should be "isolated from his kind as if he were a leper of old". This treatment was first used against Captain Boycott, a land agent in County Mayo. *Cp.* TO SEND TO COVENTRY *under* COVENTRY.

Add to these a good anthology of poetry (a paperback textbook, **Sound and Sense,** *Harcourt, Brace & World, is the smallest and cheapest and best I know of), a* **Complete Poems of Carl Sandburg** *(or T.S. Eliot or Wallace Stevens, if they suit your ear, though I opt for the less strenuous bards in the bathroom), a well-finished rosewood toilet seat and you cannot avoid being rested — even ennobled — by your small sabbatical amidst the plumbing.* ■

I DREAMT I DIED...

AND WENT TO HEAVEN

ZZZZ

by Dan O'Neill

HEAVEN.. I COULDN'T BELIEVE IT.. I HAD MADE IT! THERE I WAS, STANDING IN LINE TO BE PROCESSED BY THE CELESTIAL ADMININSTRATION.. ANGELS WERE PASSING OUT CIGARETTES AND APOLOGIZING FOR THE DELAY.. FOLKS DIDN'T CARE.. THEY WERE EXCITED.. THE GIRL IN FRONT OF ME FINALLY FOUND HER BOYFRIEND WHO SHE HADN'T SEEN SINCE JUST BEFORE THEY HAD PILED THEIR BUICK INTO THAT TREE...

ACME SALES

NO.. YOU WON'T GET CANCER.. YES.. THEY ARE REAL CAMELS..

IT'S TRUE.. ANGELS ARE BLOND..

TWO PACKS, O.K?

.SINCE I WAS FINALLY HERE, I FIGURED TO SEE GOD.. SO I MADE AN APPOINTMENT...

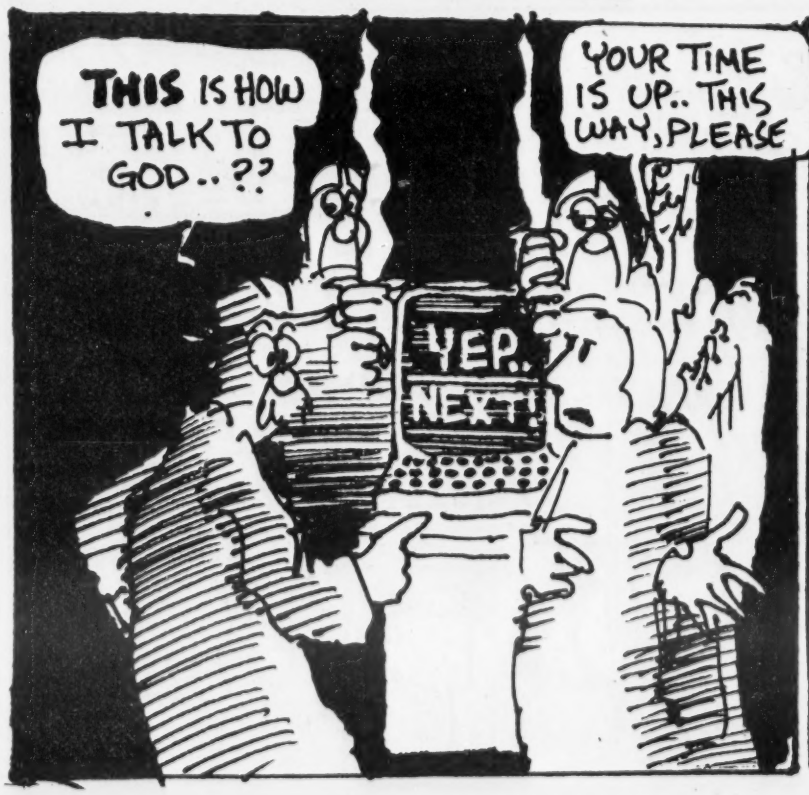
I CAN FIT YOU IN ABOUT SIX MONTHS FROM NOW.. FOR SAY.. TWENTY SECONDS?

THAT'S IT?

I HUNG OUT OVER AT HOSANNA CLASS... IT SEEMED TO BE THE ONLY PLACE IN HEAVEN TO MEET GIRLS..
PLEASE.. QUIET DOWN BACK THERE.. YOU MUST KNOW THESE HOSANNAS IF YOU EXPECT TO GET YOUR WINGS..
I USED TO HAVE A 750cc NORTON MOTORCYCLE AND AN IRISH SETTER..
ANYONE CAN GET IN HEAVEN THESE DAYS..
IT'S SUCH A SHAME.

..JUST WHEN I GOT TO THE GOOD PART..
THE BIKE BROKE DOWN IN 1971, AND THE DOG WAS AN IDIOT.. HUH?
THE HOLY OF HOLIES WILL SEE YOU NOW... PLEASE HAVE YOUR UNANSWERABLE QUESTION READY..

THE UNQUESTION-ABLE ANSWER AWAITS.. YOU HAVE TWENTY SECONDS..


THIS IS HOW I TALK TO GOD.. ??
YEP.
NEXT!
YOUR TIME IS UP.. THIS WAY, PLEASE

NEXT!
THANKS.. COME AGAIN
..NOT A GREAT INTERVIEW..

MORE.....

A SMALL GROUP OF NEWLY WINGED ONES WERE WATCHING NEWS FROM EARTH..

T.V. TREE.. VERY COMMON IN HEAVEN..

..THE POPE TODAY REPEATED HIS DEMANDS..

AMERICANS MUST CEASE PRACTICING ARTIFICIAL BIRTH CONTROL BY NEXT TUESDAY..

..OR THE SWISS GUARD WILL START EXECUTING THE HOSTAGES FROM THE AMERICAN EMBASSY HERE IN ROME BY SEVEN O'CLOCK EASTERN STANDARD TIME

.. ABOUT THAT TIME I RAN INTO AN OLD FRIEND FROM NEVADA.. PETE THE BIKER.. I COULDN'T BELIEVE IT!

DAMN! SOMEONE RECOGNIZED ME..

PETE!!

SO.. JUST ABOUT ANYONE GETS TO HEAVEN, EH, PETE..?

DON'T RUB IT IN..

PETE HAD BEEN HERE LONG ENOUGH TO SPROUT WINGS WHICH IRRITATED HIM NO END..

..NEXT IT WILL BE A HALO..

YOU GOT IT RIGHT, KID.. ANYONE AND EVERYONE SHOWS UP IN HEAVEN... IT'S A NO CLASS PLACE FOR SURE!!

NOT LIKE THE OLD DAYS IN NEVADA, HUH, PETE?

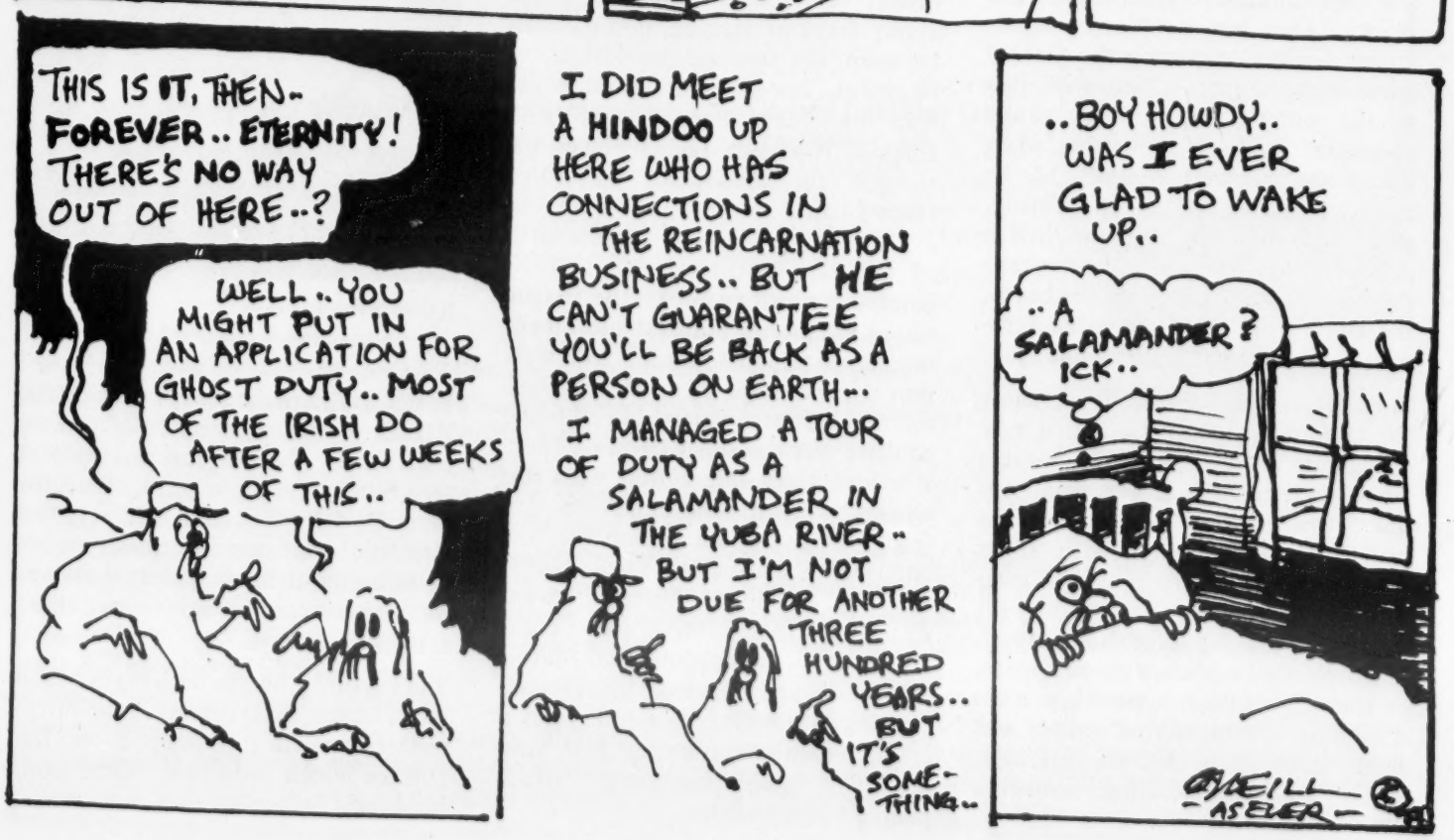
AND THESE STUPID WINGS.. I COULDN'T BELIEVE THE HASSLE WHEN I WAS BACK IN THE GANG TRYING TO GET MY WINGS..

I REMEMBER YOU PUT ON A BIT OF A CELEBRATION AND FOUR COPS WENT TO THE HOSPITAL AND YOU WOUND UP IN THE SLAMMER FOR SIX MONTHS..

YEAH - WELL UP HERE YOU DON'T DO ANYTHING FOR YOUR WINGS.. THEY JUST GROW.. AND THE DAMN THINGS ITCH, TOO!

WE SAT AT THE EDGE OF HEAVEN AND TRIED TO GET IT TOGETHER..
..SO MERIT IS NOT A CRITERIA FOR ADMISSION HERE ANYMORE?
NAW..YOU JUST HAVE TO BE DEAD, AND POW! YOU WAKE UP WITH WINGS..
BUT WHAT HAPPENED?
..IT WAS ALL THOSE RELIGIOUS FANATICS AND THEIR WARS.. GOD WAS ON, EVERYBODYS SIDE-SO HERE THEY ARE..
A BLANKET REDEMPTION POLICY WAS THE ONLY WAY TO HANDLE THE CROWD..

SOMETIMES IT'S KIND OF FUNNY HERE .. YOU KNOW.. WHEN ALL THESE CHRISTIANS, JEWS, ARABS ALL MEET EACH OTHER .. AFTER A LIFETIME OF HATING EACHOTHER AND LOVING GOD..
DID YOU SEE GOD YET..?
"YEAH..I ASKED ABOUT MY CHOPPER.. A MISTAKE.. IT RUINED ETERNITY FOR ME WHEN I FOUND OUT.."
AGHHH!
LONESOME WAYNE SOLD IT.. BLEW THE CASH IN CARSON CITY
WHAT DID YOU FIND OUT?
I WANTED TO FIND OUT IF THE GIANTS WOULD EVER WIN ANOTHER WORLD SERIES.. BUT I GOT HUSTLED OUT TOO QUICK..


THIS IS IT, THEN.. FOREVER.. ETERNITY! THERE'S NO WAY OUT OF HERE..?
WELL..YOU MIGHT PUT IN AN APPLICATION FOR GHOST DUTY.. MOST OF THE IRISH DO AFTER A FEW WEEKS OF THIS..
I DID MEET A HINDOO UP HERE WHO HAS CONNECTIONS IN THE REINCARNATION BUSINESS.. BUT HE CAN'T GUARANTEE YOU'LL BE BACK AS A PERSON ON EARTH..
I MANAGED A TOUR OF DUTY AS A SALAMANDER IN THE YUBA RIVER.. BUT I'M NOT DUE FOR ANOTHER THREE HUNDRED YEARS.. BUT IT'S SOME-THING..
..BOY HOWDY.. WAS I EVER GLAD TO WAKE UP..
..A SALAMANDER? ICK..
O'NEILL -ASELER-

GOOD MOVIES

BY
SHEILA BENSON

BLACK STALLION

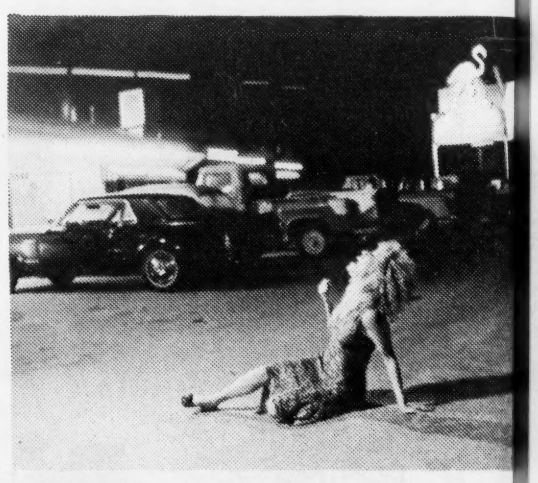
☆

What director Carroll Ballard has done in his first feature, **THE BLACK STALLION**, a horse-chestnut of a book, is to turn it into a miracle of a film, possibly the finest child-animal picture ever made. Ballard seems to understand as acutely as Mark Twain or E. Nesbit the still moments and secret pleasures of the inner world of children, and his adventure film has more than a hint of myth about it.

The Black Stallion's first third, after an exhausting nighttime shipwreck scene, contains a long island sequence, the purest and most lyrical moments of the film. Ballard, with his cinematographer, the splendid Caleb Deschanel, works in big, clean, close pictures, invariably seeming happiest with minimal dialogue. First there is a fearful and curious testing between the shipwrecked 11-year old Alec (wonderfully played by Kelly Reno) and the untameable Arabian, The Black: Alec, his shoulder hunched, inches forward, offering the starved horse seaweed from a huge shell, just at the water's edge. Next is the audacious swimming-courtship when the horse allowed himself to be mounted in the water, and finally, after Alec has hit the sand half a dozen times, there's a triumphant flat-out bareback gallop up the beach, the boy's arms flung up in an acrobat's gesture of unutterable joy.

Black Stallion is the first film to show the real nature of an animal: it may exaggerate a little what it is, but it is never sentimentalized into what it is not. The Black, through sound as well as pictures, is captured in all its wildness, energy, strength and magnificence. The film's last third, with the obligatory Big Race, has a superb performance by Mickey Rooney as an ex-trainer, and the race itself is so overwhelming a mingling of sounds and tight, close shots that we feel what those short, thundering moments must be like for the rider himself.

NORTHERN LIGHTS



THE ROSE

☆

CoEvolution's other SB, Stewart, says that if **Days of Heaven** is the horseshit about American farm life in the early part of the century, then **NORTHERN LIGHTS** is the horse. While I'd quarrel to my expiring breath with such cavalier words about **Days of Heaven**, comparisons between the two are inevitable. A beautiful, low-key black and white film by John Hanson and Rob Nilsson, **Northern Lights** etches the struggle for subsistence by North Dakota dirt farmers pre-World War I – conditions which led to the birth of the Non-Partisan League. Now ignored by history books, the League was a grassroots political movement organized farmer-to-farmer as a weapon against huge business and agricultural interests which had combined to drive out the small farmer. There is a love story interwoven with this **Grapes of Wrath** kind of politics, and fine, lovingly drawn portraits of the enduring Scandinavian farm people of the northern United States. Watching these "reserved, cold, repressed" Norwegians, stiff-faced and perpetually layered against the piercing North Dakota elements, is a graphic demonstration of just how crucially geography can affect people's personalities.

NOSFERATU

☆

Bette Midler is the reason to see **THE ROSE**, a searing, carefully drawn portrait of life not just in the fast lane but in the slip stream. Director Mark Rydell (**Cinderella Liberty, The Reivers**) is not one for subtlety – his underlining of ironic points works to the film's disadvantage – but there are fine moments.

The best may be the meeting between Harry Dean Stanton as a country-western patriarch, steeped in the politics which produced "Okie from Muskogee," face to face with Rose,

flamboyant flower of Sixties womanhood and singer of his songs, whom he weighs and finds wanton. Frederic Forrest is excellent as the AWOL G.I., who hangs in with her until his self-preservation asserts itself, but the picture is Midler's and she is unsparing in her demands upon herself, dramatically and musically.

☆

Erotic, subtle, hypnotic, Klaus Kinski's Count Dracula in Werner Herzog's **NOSFERATU** redefines the role once and for all. **Nosferatu** is not a horror film but a story of love and the pain of living without it, and its magnetic core is Kinski.

The gorgeousness of the setting, the music and photography distract us from the basic frailty of the story, but only intermittently. This is also the first time in memory that Herzog's use of animals as a key element fails him. (The hundreds of tiny monkeys which invaded **Aguirre**'s death raft were one of that film's most brilliant touches.) The grey-beige carpet of rats which flows from Dracula's ship into the complacent Dutch town is too soft and luscious; they should be terrifying city rats, scaly-tailed and vicious. This is small stuff, however, in the face of Kinski's performance which would seem to justify Herzog's description of him as "the only demon of cinema." The final scene with Isabelle Adjani as the sacrificial Lucy is tinged with deep eroticism.

☆

Although **THE ONION FIELD** splits at its middle and changes direction entirely, it is nevertheless a heartfelt rendering of Joseph Wambaugh's novel of the inequities of modern criminal justice. James Woods' performance may recall Richard Widmark's savage Tommy Udo in **Kiss of Death** (1947); actually Woods is more complex and psychological – a tour de force. John Savage as the officer who lives through his harrowing night of abduction in the onion field, but just barely through its aftermath, is absolutely perfect.

☆

Another great find from the San Francisco Film Festival (**Black Stallion** was the first) is French theatre director Ariane Mnouchkine's second film, **MOLIERE**, 4¼ hours of dazzling invention and brilliance. In her portrait of the life of a theatrical troupe against the wider canvas of social unrest at the time of Louis XIV, Mnouchkine is capable of the most audacious spectacle (a runaway travelling stage, its actors aboard, propelled across the French plains by the wild mistral; a fleet of gilded gondolas towed in the snow to Versailles by straining French peasants) and of small and touching intimacies too. Unforgettable is the scene between Moliere and his actress-mistress whom he has replaced with her own daughter. The film's final scene, as the hemorrhaging Moliere is rushed upwards on never-ending stairs in a stylized death-scene of struggle and travail, is as poignant an image of death (and a life pointing to immortality) as the screen has ever produced. ■

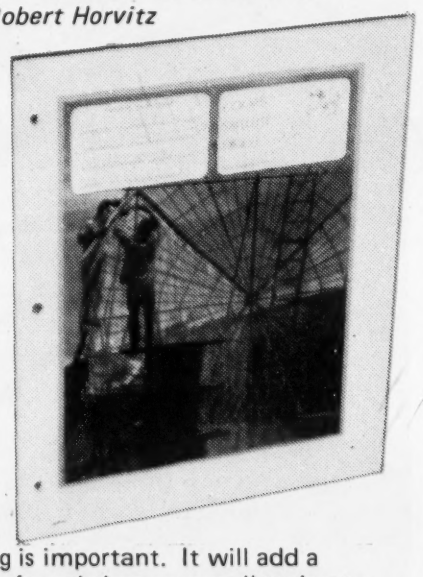
Coop's Satellite Digest

No doubt about it: the era of home satellite reception has begun. Last August, the first Satellite Private Terminal Seminar (SPTS '79) drew an enthusiastic crowd of over five hundred backyard tinkerers, equipment suppliers, Gyro Gearlooses, and prospective dish owners from as far away as Alaska and Mexico to Oklahoma City for a state-of-the-art trade-fair and information-swap. Last September, I got a press release from the Canadian Department of Communications proudly announcing, "Canada First Nation to Start Direct-to-Home TV Broadcasting Service by Satellite" (service began on September 25). And in October, the FCC decided to stop requiring that U.S. satellite receiving stations be licensed at all. According to the **Wall Street Journal** *(10/19/79), this will eliminate the three-month wait and the $1500 - $3000 it used to cost to undergo the licensing process. It will also make it next to impossible for program suppliers to identify who is receiving their programs. Hardware costs for receive-only stations are plummeting. The lowest I've seen so far is a $100 do-it-yourself system designed by John Yurek (RD No. 6, Box 413, Irwin, PA 15642; price includes a fifteen-foot dish but not a video monitor). Incredible.*

The man at the center of all this activity (to the extent that there is a center) is Bob Cooper, who organized SPTS '79, who is organizing similar gatherings February 5 - 7 in Miami, Florida, and in San Francisco next April or May, and who has just started a newsletter for people who want to follow this rapidly evolving field. **Coop's Satellite Digest** *comes in two editions – Technology, for people who are interested in building and operating their own receiving stations (the first issue, October, 1979, began with a reprint of Arthur C. Clarke's classic "Extra-Terrestrial Relays" essay from 1945, and the rest of the issue was devoted to technical correspondence, circuit diagrams, and explanations of two low-cost terminal designs), and for those who want to know about but not necessarily do, there is the Programming edition (which, the first time out, gave an extended summary of SPTS '79, and a very dense discussion of the legal and economic issues involved in the deregulation of satellite reception, loaded with facts about what's currently available and what commercial distributors' attitudes are about the sudden opening of the reception field). The two editions are nicely complementary and have no redundancy between them. The cost is $30 per year (first-class mail delivery) for each separately, or $50 per year for both. Both come in a folder, with holes punched along the left edge for storage in ring binders. This is the most exciting magazine I've seen all year.*

Coop also has available many videotapes of seminars and his own satellite-distributed weekly TV show, plus how-to-build-it manuals. Write to Arcadia for a current list of what's in stock. —*Robert Horvitz*

Coop's Satellite Digest
Bob Cooper, ed.
12 issues/year
$30 (technical or programming editions)
$50 (both in 1 binder)
from:
Satellite Television Technology
P.O. Box G
Arcadia, OK 73007



Being free of FCC licensing is important. It will add a tremendous amount to the foundation we are all trying to build upon. Watching TV is un-nerving enough without having to post guards out front to warn of the approach of 'revenue agents.' Having a clear-cut, legal right to own satellite TV receiving equipment without a license will bring dozens of new hardware manufacturers into the field. Rapidly. It provides the foundation of legitimate operation which, missing to date, has scared many reputable but capable firms away.

A Choirperson's Guide to New Wave Music

by Margaret MacLean

BBBBY THE TIME this new music was loitering around in the Top Ten, I was muttering, "How can they listen to this garbage?" I was in comfortable company in that frame of mind. Eventually, it occurred to me that that phrase sounded distantly familiar (echoes of my elders' comments about the dim future of popular music and melody, and the vegetoid state of the young, buying public). It is interesting to see this kind of territoriality in a generation famous for alleged open-mindedness, but we are merely continuing a time-honored tradition of intolerance.

Just as studying cannibalism as a (possibly) spiritually logical practice does not make one a cannibal, merely recognizing punk and new wave as logical socio-musical developments does not make one a devotee. There is an interim step involved in coming to like it. My active abhorrence turned into a selectively positive enthusiasm, but not without some effort. Early on, I had no place to put music which required its own category. Ten years of musical training had done much to etch a limited set of criteria into my mind, so I approached the situation as a non-musical one, not difficult to do in this case, since much of the point of new wave has nothing to do with music.

Of course they don't make music as they used to. Popular music by definition reflects the subculture of adolescents and young adults. Each generation maintains an emotional bond to the music identified with its most impressionable years. This tendency is certainly beneficial, and has two major effects. First, if a musical genre simply vanished when it went out of style, we would have no sense of the history or development of either the music or our own parents. Old forms must be maintained by the faithful for the collective edification of the young. Second, it affords us invaluable opportunities to use the phrase, "Well, in my day . . ." We must have our own day, if nothing else.

The author, still angelic at 29, toured Europe in 1969 singing in the Lambrequins Choir instead of attending at Woodstock. A sequence of affiliations with ad hoc country and bluegrass groups in New England led her improbably to adventures in Peru and then the University of California Anthro Department where she specializes in New World archaeology.

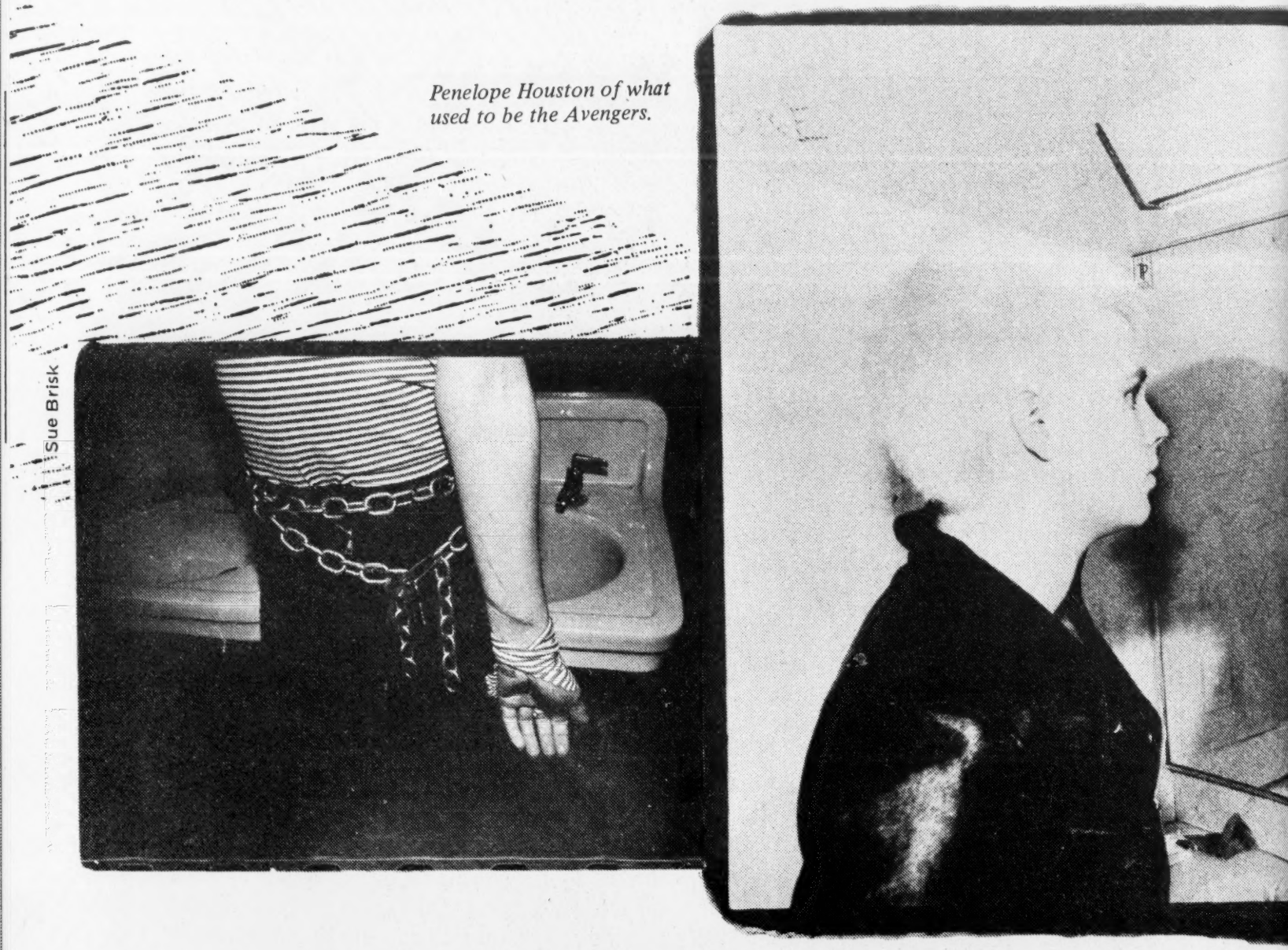
All the new wave types I know are surprisingly balanced and competent in their private lives. That may be the function – as many professional football players are made gentle by their art form. –SB

TTTTHERE ARE differences now between "punk" and "new wave." Punk appeared first and served as inspiration for the new wave. In its pure form, punk derives its strength from the combination of the startling physical appearance of the musicians, lyrics designed to shock, and musical accompaniment which makes few concessions to listenability. It can be an art form, in that it transcends its components on its way to making a larger, abstracted statement. Few such performances have made successful transitions from the live to the recorded state. It is an artists' medium, related, perhaps, to the visual arts; few of the artists are particularly interested in changing their messages to suit the masses. Performers of the punk persuasion, such as Iggy Pop, Richard Hell and the Voidoids, and Johnny Rotten, hate the masses and just about everything else.

It is interesting that the basis of the new wave formed on the grass-roots level, not in the record company think tanks. The early forms were so alarming that they were not often considered to be commercial. Rejection proved a challenge in many cases, and as a result, hordes of small record labels and distributors have appeared. Also, the fact that there are lots of new bands playing this music has helped out with a resurgence in some areas of clubs with live music to balance the plague of discos.

Punk performers exhibit no traces of romanticism to sully their nihilism. The fact that much of the sound that they produce is rather difficult to listen to is consistent with their general approach. The group Devo (short for devolution), dressed in yellow rubber jumpsuits, present themselves as a self-appointed trickster squad out to expose hypocritical behavior and societal disintegration. They are cynical, negative, atonal, and often hilarious. They appear to be serious.

Enough of these performances are witnessed to spark considerable interest among those "objectionable" masses, but punk did not catch on in the original form. The socio-political situation in England which gave rise to the powerful message



Penelope Houston of what used to be the Avengers.

behind punk exists here only in parts of urban centers. San Francisco has a punk community which gathers to hear groups called Dishrags, Humans, Dead Kennedys (with Jello Biafra), Dils, Offs, C.I.A., etc. At one club, the volume is turned up high enough so that deaf kids can feel the beat. The music is danceable – young bodies can be seen jumping and ricocheting off walls and other bouncers. The insistent, straightforward beat does not encourage intricate steps.

New wave music has resulted from the modification of punk. The content is softened and the structure is essentially the same, with adjustments made for normal decibel range. We are not, however, left with a soulless residue. The violence removed, new wave is more likely to play in Peoria.

Contempt for the system often includes contempt for the media. Some groups refuse to be interviewed – to offer themselves as fodder for the terminally hip wordsmiths of rock journalism. I can't blame them. The Clash, for example, has given no interviews in this country, but they are doing very well, thank you. This is probably connected to the idea of allowing the music and the performance to speak for themselves. Contrary to the credo of the music industry, it is possible to imagine a group (probably punk) which formed in order to get a point across, and which would disband when the message was no longer necessary. Popular music by its reflective nature is not designed to remain static at any one stage.

Both punk and new wave present a spare, almost skeletal sound which gives the impression of one-take production and little or no studio enhancement. This simple, two-dimensional effect is occasionally mechanized by the addition of synthesized sound. The recent German infatuation with synthesizers along with their expertise in recording technology has resulted in the use of this new kind of sound in disco as well as new wave. Disco-queen Donna Summer emerged from the German school of inhuman music. In new wave, the finished product is often a rigid, staccato sound to suggest close order drilling instead of dancing. The compromise is, as I said, bouncing. Very catchy stuff. Some competent musicians lurk in the crest of the new wave, despite this minimalist approach, although there seem to be few real stars. The groups are mostly male, and the tone of the music is decidedly masculine. Even the major female contenders adopt androgynous images and sing songs written for men. I don't know what this means, if anything.

Ruby Ray

Although punk verse is more intense, new wave lyrics are certainly not of the moon-June-spoon variety. Any generalized statements about the ideas behind hundreds of songs would serve no purpose, but we can make some observations about attitudes. Euphemism and fantasy are not regular features, save in rare cases. Reality and the seamier side of human interaction are far more common. We all have noticed that kids today know more about the real world than kids twenty-five years ago did. There are advantages and disadvantages to this, but it is a fact. Tunes of the sixties with benign lyrics about love and peace and faith that everything will turn out okay in the end would not suffice now. A rare example of euphemism, but one which shows a rather common impersonal attitude, is this from Elvis Costello:

As I was down under the covers
in the middle of the night
Tryin' to discover my left foot
from my right.
Well, you can see those pictures
in a magazine,
But what's the use of lookin'
if you don't know what they mean?
Why don't you tell me
'bout the mystery dance? . . . .[1]

It's a rather charming admission of adolescence. The basic boy-girl drama still figures importantly these days, but often with the raw edges of disappointment and emotional manipulation. These things aren't new, of course, but our conditioning heretofore has been to assume a positive frame of mind. Elvis again:

Oh I said I'm so happy I could die
She said 'drop dead' then left
with another guy.
That's what you get if you go
chasin' after vengeance
Since you got me punctured
this has been my sentence . . .[2]

Combining absurdity in modern values with relationships provides the Cars with fuel:

he's got his plastic sneakers
she's got her robuck purse
he's got his butane flicker
she's got it worse
they're crazy about each other
they blame it all on the lust for kicks
he's got his own dumb waiter
she's reading one fell swoop
he gets around to it later
she fills the scoop
he's just a hip parader
she's just a cycle ride
he likes to masquerade her
she tells him lies . . .[3]

This last one from the Cars' album "Candy" shares the theme of aloofness and cold-hearted women with the rest of the tunes on the album. Other popular themes include materialism, working, the end of the world, and related issues. Complacency is a favored target; it accounts for motivating some of these diatribes.

THE RUBBER SUIT attire of Devo is not the norm, but the electro-shock crew-cuts in various colors, mannequin make-up, and black leather make an equally strong visual impact. The combination of medium and message, and the quasi-military bearing of the new wave can be amusing if one sees the package as just that which the groups are scorning. Sophisticated self-parody can make educational theater. However, the question is whether this is the reflection or creation of an attitude. The new wave persona is

1. Elvis Costello, "Mystery Dance" ©Stiff Records, 1977.
2. Elvis Costello, "(The Angels Wanna Wear My) Red Shoes" ©Stiff Records, 1977.
3. Ric Ocasek, "Lust for Kicks," © Lido Music, 1979.

Ruby Ray

a handy, ready-made package complete with a physical and psychological uniform. Instead of listening to music which fits one's personality, one molds one's personality to conform to the music and all it entails. Without the aspects of humor and parody, the wave would be mistaken for proto-fascism. Whatever its function, the fact that this music is so popular bespeaks some kind of relationship between it and the record-buying, radio-listening public. The phenomenon is worth investigating, if only to learn what it is that we curse.

Attempting to trace direct lines of influence to new wave music is impossible and silly. Twenty-five years ago, popular rock and roll was only a generation away from its ancestral forms in the black and white southern rural music traditions. Since then, derivative styles have multiplied at a geometrically progressing rate. While the new music may resemble that of the fifties in a superficial way, the current incarnation results from a

Sue Brisk

Above left: Sally and Sue of the Mutants. Once they all crawled out on stage in cardboard boxes. They have thrown dead fish at the audience. They're fun.

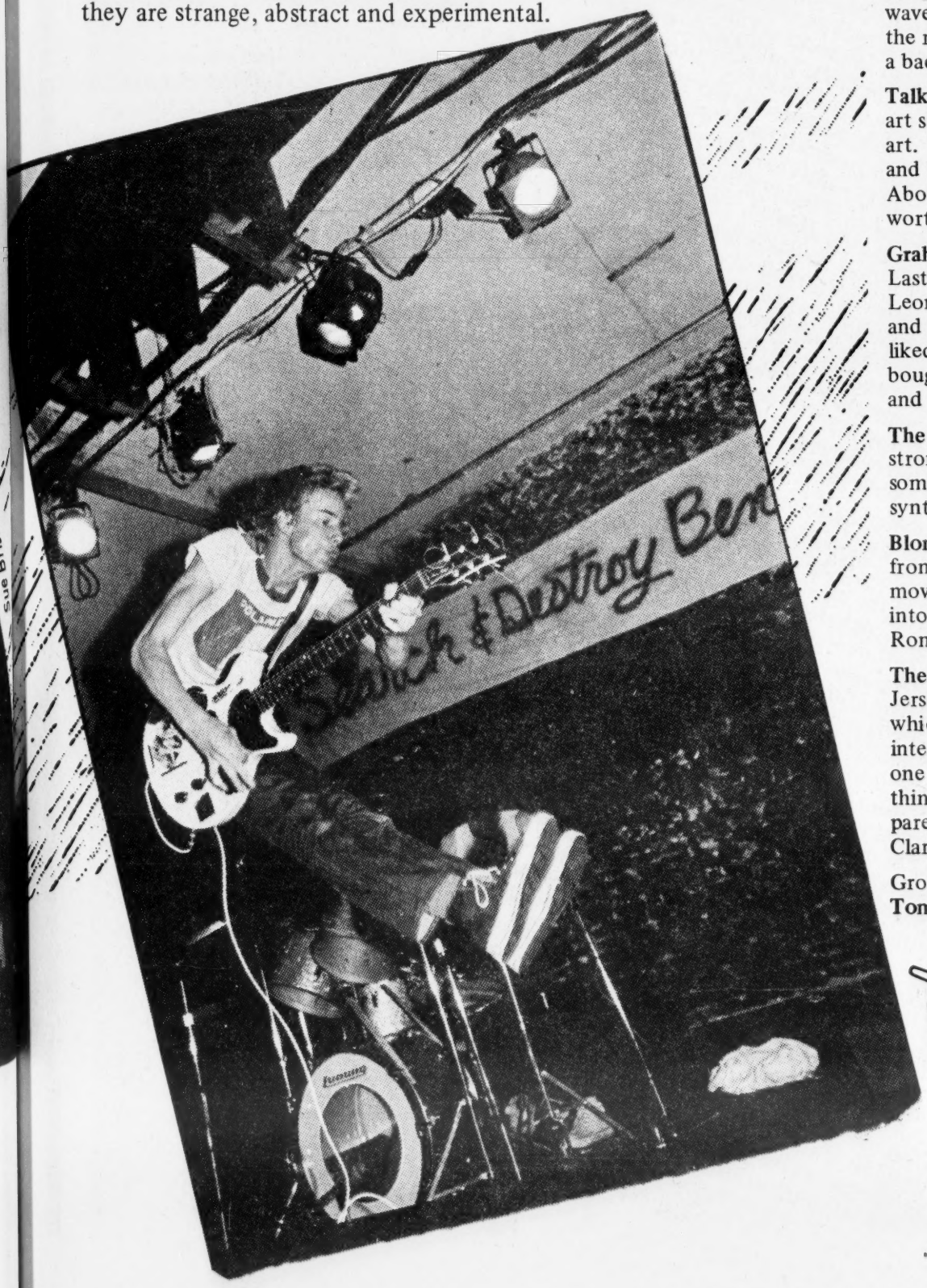
Sue Brisk

Center: Darby Crash of the Germs encourages audience participation at the Deaf Club in San Francisco.

Devo.

sophisticated technology and a cultural context radically changed over the decades. Elements of new wave thought and music are evident in the work of the Kinks, David Bowie, Warren Zevon and others not normally associated with the music, but the combination of musical and non-musical elements discussed earlier is the key.

I haven't burned my Beethoven, but I am genuinely interested in this stuff. A little of it finds its way into my modest record collection, most comes in over a tinny radio perfect for the sounds. Elvis Costello, The Cars, and Graham Parker take turns living on the Victrola, when I'm in the mood for some healthy cynicism. (It seems to happen regularly.) There are more favorites, but these three represent my interest: Costello because he is witty and spare, Parker because he writes well and his band is excellent, and the Cars because they are strange, abstract and experimental.



Sue Brisk

N N N N OW FOR A STROLL further out onto the limb. Here are a few comments on some popular groups from a person who has been known to put on "The Best of the Everly Brothers" on a Saturday morning.

Elvis Costello: Mr. Costello is reputed to be a jerk in real life. His lyrics are acidic and the music is tight, drawing on the style of the Other Elvis. "My Aim is True" is his best to date.

Joe Jackson: His is well-crafted if derivative stuff, and definitely commercial. "Look Sharp" has some catchy tunes.

The Knack: These guys represent a recent trend – that of capitalizing on the pop formula of modified new wave and mass producing tunes with the recipe. They give popular music a bad name.

Talking Heads: This is a collection of art students who make performance art. They are unpretentious, talented, and hard-working. "More Songs About Buildings and Food" is well worth trying.

Graham Parker and the Rumour: Last summer, I saw Parker and Leonard Bernstein in the same week, and had trouble deciding which I liked better. No decision, but I bought Parker's "Heat Treatment" and "Squeezing Out Sparks."

The Cars: This group started out strong, but seem to be clicking into some kind of formula. They do use synthesized sound creatively.

Blondie: The lovely Deborah Harry fronts this competent band as it moves away from punk and directly into mainstream rock and roll. Romantics with sass.

The Ramones: They are from New Jersey, and play emaciated rock which defies description. In a recent interview on National Public Radio, one member of the band said, "One thing about our rock and roll, your parents should hate it." Yup. Clarity at last.

Groups to watch: **The Sports, Tommy Tutone,** and **Tom Verlaine.**

■

Chip of the Dils playing at a benefit for the now-defunct magazine ***Search and Destroy*** *(Mabuhay Gardens, San Francisco).*

HEAVILY PÜNK CHORUS

by J. D. Evelegh

Something is happening,
but you don't know what it is,
do you Mister Jones?

–Mister Dylan © 1964

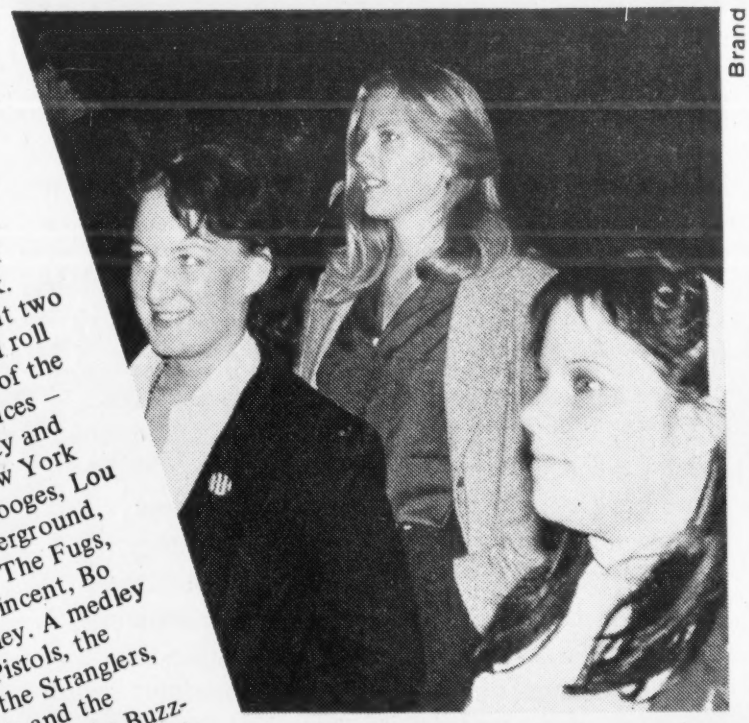
Revolting new styles are endemic to popular music. Witness only the last 17 years – the Beatles, the English invasion, electric folk, soul, white blues, psychedelia, art rock, heavy metal, country rock, reggae, disco, neo-pop, and punk and new wave. All of these trends have pissed-off some group of predecessors such as parents, folkies, hippies or serious musicians. The record industry has strip-mined all but the last two for fat profits and then deserted them for the next gold mine. It's the story of every underground that emerges into the glare of the mass media. Is there anything different happening this time? From my perspective as a local small-time promoter and record label owner as well as a long-time fan, I will run through some of the salient features of the current scene and some reasons why a fundamental change may be forthcoming.

New wave, new wave
but don't forget to
rock an' roll.

The MonDellos
©1979 David Jenkins

The earliest punk music I've heard is the blues of the 1920s – raw, crude sounds to dull the pain of a life alienated from the mainstream and its material rewards, with no future but ever-present cheap thrills. Today punk has become an urban, white phenomenon – commercial possibilities.

In 1976 an oppressive political and social situation combined with disgust for the over-blown and pretentious state of rock produced a new energy and urgency in the English scene, giving rise to modern punk. Its musical roots were varied, but two main stems were early rock and roll and the New York decadence of the early '70s. A litany of influences – The Ramones, Wayne County and the Electric Chairs, The New York Dolls, Iggy Pop and the Stooges, Lou Reed and the Velvet Underground, The MC5, The Deviants, The Fugs, Eddie Cochran, Gene Vincent, Bo Diddley and Elvis Presley. A medley of results – The Sex Pistols, the Clash, The Damned, the Stranglers, Elvis Costello, Siouxie and the Banshees, X-Ray spex and the Buzzcocks. Harsh, angular, metallic music that left no room for compromise. Shit or get off the pot. Many got flushed, others got flush.



Brand

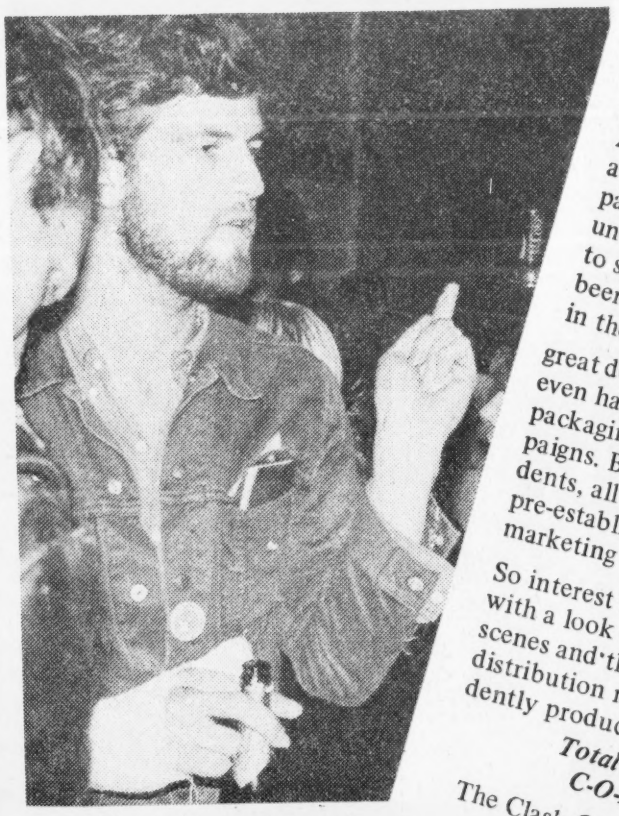
Angelic Margaret MacLean amid (left) photographer Sue Brisk and (right) Sally Mutant of The Mutants.

A little later the more experimental wing of rock music received a new stimulus, mostly in America. The obvious names are The Cars, The Talking Heads, Devo, Pere Ubu and the Residents. Many of the influences on these artists are from an earlier English period – Roxy Music, King Crimson, David Bowie, Kevin Ayers and the Soft Machine, and Van Der Graaf Generator have all left their mark and several are still prominent. The choral effect is interesting. Alien rhythms, a reworking of rock motifs, futurist interests, and an overlay of electronics distinguish this music.

The latest development is neo-pop as exemplified by bands such as the Knack, Pearl Harbor and the Explosions, The Beat, and Blondie. Development is really a misnomer in this case since the essence of their music is nothing but a return to mid-'60s pop complete with adolescent lyrics and values. The package is sugar-coated by the record industry and gift-wrapped by the mass media. Consumption of this music tends to reinforce adolescence.

Throughout the past decade there has also been a continuing strain of basic rock music with a symbiotic relationship to the punk/new wave/neo-pop trends. The foremost practitioners of this vital form include Bruce Springsteen, Patti Smith, Graham Parker, Nick Lowe, The Who, and the Kinks. These last two actually date from the '60s but it seems to me that unlike many of their contemporaries they have moved with the changing tides of

Jonathan Evelegh. Works here at CQ. He's 27, British, 6' 2", and, ah, lively. He helps bounce trouble at the door of a San Francisco new wave club, the Temple Beautiful, helps promote a local group, the MonDellos, and generally lives at an angle to the page.
-SB



Working the door of Temple Beautiful, the author holds his beer like a cigarette because of a motorcycle.

the times. The music has the rock sensibility and with only rare exceptions does not pander to juvenile emotions, although much of it concerns those emotions.

All but one of these artists has signed a contract with a major record company and can thus be considered as under the mega-corporations' control to some extent. Some of them have been successful in negotiating clauses in their contracts which give them a great deal of artistic control and some even have say over their artwork, packaging, and promotional campaigns. But except for The Residents, all of them have tied into the pre-established distribution and marketing systems.

So interest in the future should start with a look at the current local scenes and the emerging alternative distribution networks for independently produced records.

Total control . . . .
C-O-N Control.

The Clash ©1977 Nineden Music

The San Francisco Bay Area scene is in a state of great ferment. All of the big-time styles are well represented. Many of the bands have their own records released on their own labels and available at local stores.[1] There are enough clubs to give a wide choice of entertainment most nights of the week.[2] There are several locally produced magazines covering both local and national news with their own particular slants. Even the two big daily papers cover events in a generally sympathetic manner. At the beginning of October there was a week-long festival of New Wave music featuring 40 West Coast bands which expanded the audience noticeably. Women are well-represented in bands, business, and audiences.[3] Non-wasps and gays are integrated and not given a second glance (unless they're dressed outrageously well). Target Video, the nation's prime progressive video outfit, is headquartered here.[4] It is generally a thriving, exciting scene with much potential. The only thing missing is a good radio station, although several stations devote late evening hours to New Wave shows.[5]

All this is under local control. The corporations of Los Angeles and New York have little to say about how things are done. There are similar situations in other large metropolitan centers.[6] The challenge facing the punk/new wave movement is to maintain this situation and also to strengthen links between the various scenes scattered around the country.

The problems involved in this arise from money, lack of money, and human greed and ego problems. The record industry has long functioned on the assumption that success can be bought by manipulation of the media and blanket promotion of product. It costs a lot in a nation the size of America. They also manipulate the artists into producing the desired product by promising them fast riches and easy living.

This has to stop if the punk/new wave movement is to be able to claim any success. In fact, it will be the first measure of success. The methods being used are drawn from lessons learned in the '60s and by an increasing use of '80s technology in widespread, low-level, low-budget communications.

There is a very conscious attempt to build an underground network of newspapers, magazines, stores, radio shows and clubs. Small independently-owned record labels and local magazines are the two most obvious manifestations of this trend. Distribution of these is primarily on the local level. However, the momentum towards being able to distribute on a wider scale through newly established channels is building.[7] One of the keys to success here is widespread cooperation and hard work. Another is to maintain control by keeping a low profile and not expanding so fast that the mega-corps see the potential market and buy in. Financial rewards for the individuals involved will have to be limited for some time to come, the thrust will have to be self-control rather than easy salaried feeding at the corporate trough.

Much of this will no doubt sound familiar to those of you who remember the hopes and aspirations of the '60s counter-culture. In the eyes of many punks the '60s failed, as the counter-culture became the culture and was assimilated by the mainstream. This is one reason for the extremism so prevalent in punk; it is a conscious effort to alienate the mega-corps and their pandering to the masses. Whether it will be a successful tactic this time around remains to be seen. Whether the movers and shakers of the punk movement will be content with hard times and little spare cash is also up in the air.

Box 428, Sausalito, CA 94965

But for now we have the excitement and exertion of our own times. Punk music, new wave styles and fashions are the expressions of today's modern living. Think about what's going on and ask yourself if you're really getting what you want. If you're not, try some punk. Get up and do something you want to do. Activity is encouraged. ■

Footnotes

1. Some local labels and records —

The Dead Kennedys
Alternative Tentacles
70 Lundys Lane
San Francisco, CA 94110
$2.50
California Uber Alles/The Man with the Dogs

The Impostors
415 Records
595 Castro Street
San Francisco, CA 94114
$3 each + $ .50 handling
Night Time TV/Burglar/Off with His Head

The Mutants
415 Records
Insect Lounge/New Dark Ages/New Drug

The Nuns
415 Records
The EP

Pearl Harbor and the Explosions
415 Records
Drivin'/Release It

SVT
415 Records
Heart of Stone/Last Word

The Residents
Ralph Records
444 Grove Street
San Francisco, CA 94102
Various lps and singles. write for free catalog

No Alternative
VKTMS
The Tools
Flipper
Subterranean Records
912 Bancroft Way
Berkeley, CA 94710
$1.50 for each set
Compilation EP with one song from each.

The Zeroes
Negative Trend
Subterranean Records
$1.50 for each set
Double single with two songs from each.

The MonDellos
Swell Records
P.O. Box 1864
San Francisco, CA 94101
$2.50
Let's Join/White Riot Night

Los Microwaves
Time-Release Records
P.O. Box 907
San Francisco, CA 94101
Write for prices and ordering info.
Forever/I Don't Want to Hold You

Tuxedo Moon
Time-Release Records
Joeboy/Pinheads on the Move (7" single)
New Machine/Lighbulb Overkill/Night and Day/No Tears (12" EP)

Winston Tong
Time-Release Records
Stranger/Love/No Hope

The Fleshapoids
Trashtone Records
852 Stanyan Street
San Francisco, CA 94117
$2.50
Electroshock/Nuke the Whales

There are plenty of others also available at local stores such as:

Aquarius Records
595 Castro Street
San Francisco, CA 94114

Jazzland
852 Stanyan Street
San Francisco, CA 94117

The Music Faucet
2510 Telegraph
Berkeley, CA 94704

Portals to Music
78 Stonestown Mall
San Francisco, CA 94132

Rather Ripped Records
1878 Euclid
Berkeley, CA 94709

Recycled Records
1415 Grant Ave.
San Francisco, CA 94133

Tower Records
Columbus at Bay
San Francisco, CA 94133

Tower Records
2510 Durant Ave.
Berkeley, CA 94704

2. On second thoughts this may be a slight exaggeration since the only local club with shows every night is the Mabuhay Gardens, 443 Broadway, San Francisco, 956-3315. However there are usually several other shows in any given week at a variety of locations. These include The New Wave A Go-Go, 1839 Geary (at Fillmore) — Friday or Saturday most weekends; The Deaf Club, 530 Valencia (nr. 16th St.) — this opens and closes so frequently it's hard to keep track of; The Testing Grounds, 264 Valencia (nr. 14th St.) — very irregular; the Gay Community Center, 330 Grove (nr. Franklin) — just reopening after a long absence; and The Savoy Tivoli, 1438 Grant Ave. (nr. Union) 362-7023 — on Sunday afternoons (can you believe it?). Phone numbers for most of these places have a habit of changing. The best way to find out about upcoming shows is to watch for posters and fliers and keep your ears open. In addition to the above, several more traditional clubs occasionally present New Wave bands — you can check in the entertainment section of the Sunday San Francisco **Chronicle and Examiner.**

3. All women bands: The Urge, the Contractions, Noh Mercy and Rox.

Partial women bands: The Punts, Los Microwaves, SSI, the Mutants, Vs, and VKTMS.

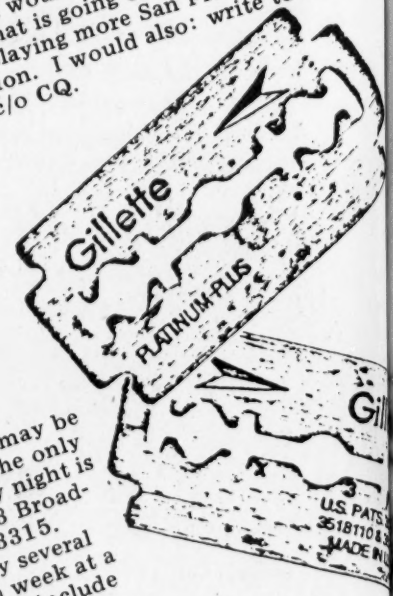
The Dead Kennedys and the Fleshapoids are both managed by women.

4. Target Video, 678 South Van Ness, San Francisco, 94110.

5.
89.7 fm KFJC, White Noise, Monday, 10 p.m. - 2 a.m.
90.1 fm KZSU, Outcastes III, Tuesday, 10 p.m. - 2 a.m.
90.7 fm KALX, New Wave Hour, Wednesday, 8 - 9 p.m.
92.3 fm KSJO, Modern Humans, Tuesday, 11 p.m. - 1 a.m.
94.1 fm KPFA, Maximum Rock 'n Roll, Tuesday, 8 - 10 p.m.
100.9 fm KTIM, Drastic Plastic, Saturday, 2 - 4 a.m.

6. Other major North American centers: Cleveland, New York, Los Angeles, Vancouver, and Boston.

7. Damage magazine (Box 26178, San Francisco, CA 94126), Target Video and New Youth Productions (P.O. Box 6029, San Francisco, 94101) are spearheading this effort. All would be interested in hearing what is going on in your area and relaying more San Francisco information. I would also: write to me c/o CQ.



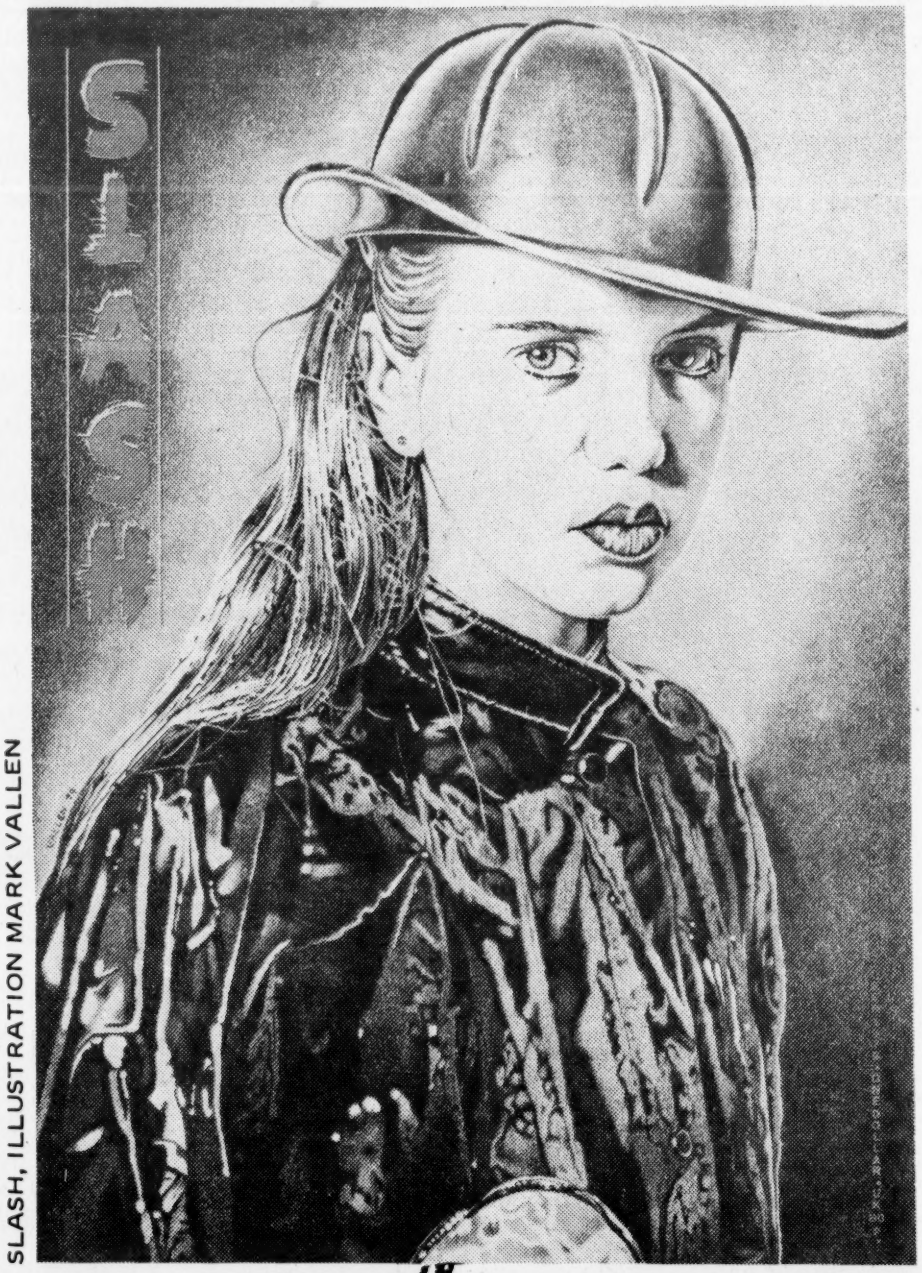
NEW WAVE IN PRINT

by Jay Kinney

Print is at best a clue. If a punk group's record is a far-cry from the immediacy of their live performance then reading a printed article about that record is twice as abstract.

Nevertheless, few of us have the opportunity (nor stamina) to be front and center at every punk/new wave show in every urban scene. Similarly, the proliferation of groups with self-produced 45s, EPs (extended-play records), and small (as well as major) label albums makes it difficult to keep track of the best recorded sounds. In some circles, word-of-mouth does the job, and the enthusiasm of a trusted friend is still the best testimonial.

However, failing that, there are several new wave publications which share news, reviews, and interviews – often in a visually-tactile style which is a graphic analog to the music. There are also a number of allied publications falling within the vague new wave genre that traffic in areas besides music: ads as art, art as style, and life-style as put-on. To the degree that there is an all-encompassing new wave sensibility developing (an arguable notion), it is at least partially reflected here too.

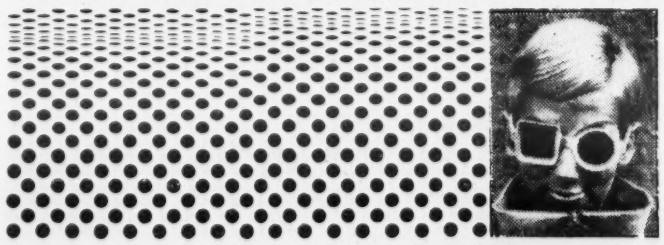


SLASH, ILLUSTRATION MARK VALLEN

SLASH

Slash is an irreverent and snotty monthly tabloid from L.A. which somehow manages to convey an honesty and intelligence that is certainly absent in 99% of the slick media. Kickboy Face, Chatty Chatty Mouth, Ranking Jeffrey Lea and other staff writers review local concerts, mounds of 45s and LPs, and interview a wide range of musicians and performers. Correspondents in London and San Francisco keep tabs on those scenes, while *Slash*'s own "Local Shit" column does the same for southern California. Cartoonist Gary Panter is on hand each issue with a bizarre comics page featuring neanderthal punker Jimbo. Highly recommended.

Slash (cover price $1; $10 for 12 issues), P.O. Box 48888, Los Angeles, CA 90048.



NEW YORK ROCKER

***New York Rocker*, which I previously reviewed in** *CQ*'s Spring 1978 issue is still coming out (monthly now) despite several editorial shuffles. The *Rocker* is fatter than *Slash* and increasingly pop-oriented, probably a reflection of its location in N.Y. where the scene is older and, by now, more jaded. Its editorial stance is slightly removed from it all and of late there has been an upsurge of perfunctory pop-journalism in its pages. A central new wave organ nevertheless.

New York Rocker (cover price $1.25; $7 for 6 issues), 166 Fifth Ave., NY, NY 10010

NEW MUSICAL EXPRESS

***New Musical Express*, the long-running English** rock weekly, is the best means of keeping up on the ever-changing contours of the British punk and new wave scene. The leftist-tinged staff manages to keep readers aware of the machinations of the music industry as it interacts with bands. New groups are touted early by *NME*, though they subsequently come in for heavy criticism for "selling out" by the time said groups release their second albums. If this route seems a bit pat, still it is in unique contrast to say, *Rolling Stone*, where the difference between ads and editorial content is often hard to discern.

New Musical Express (U.S. cover price $1.50; $26 for 26 weeks), NME by Post, Jim Watts, Room 2613, Kings Reach Tower, Stamford Street, London SE1 9LS, UK (make checks payable to IPC Magazines).

NME/Ad for Virgin Records

TROUSER PRESS

***Trouser Press* began over 5 years ago** as an Anglophilic rock fanzine and has since grown into a color-covered slick with strong new wave and progressive rock coverage. The *TP* tends to take a historical approach to the groups covered with often exhaustive attention to chronology and background of the musicians. *TP* is still heavily weighted in favor of British groups with record contracts, but columns also cover domestic "underground" 45s, other rock media, and plenty of new LPs. Narrow but deep.

Trouser Press (cover price $1.25; $12 for 12 issues), P.O. Box B, Old Chelsea Station, New York, NY 10011

SLUGGO!

All of the above periodicals are professional to one degree or another and make stabs at keeping their readers informed of new wave developments in at least the major cities. Legions of small-circulation punk fanzines and papers serving local scenes in smaller cities may have a more limited scope but often beat the larger rags for vitality. Here are three examples out of dozens.

DAMAGE

Damage is a recent addition to the San Francisco scene. When *Search and Destroy*, the groundbreaking punk tabloid, ceased publication early in '79 ("mission accomplished"), *Damage* stepped in to fill the gap. While interviews with punk and new wave bands have been the primary contents so far, the paper plans to serve as a meeting-place for a wide range of experimental creative activities.

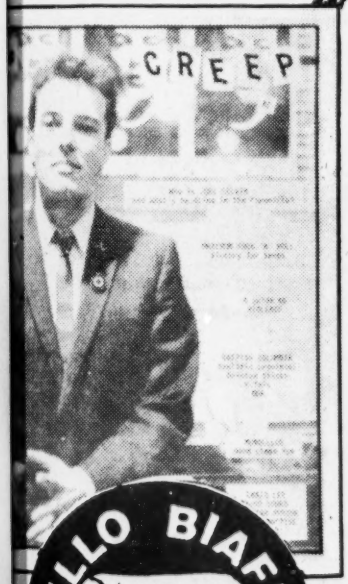
Damage (cover price $1; $10 for 12 issues), P.O. Box 26178, San Francisco, CA 94126

Patricia of the Bags, by Peter Brittin

CREEP

***Creep,* another S.F. punk rag,** has slightly less grandiose intentions if similar results. A fanzine not a tabloid, *Creep* presents interviews, exhortations and gossip, with an unrelenting first-person honesty.

Creep (cover price $ .75, no subs), Box 5528, San Francisco, CA 94101

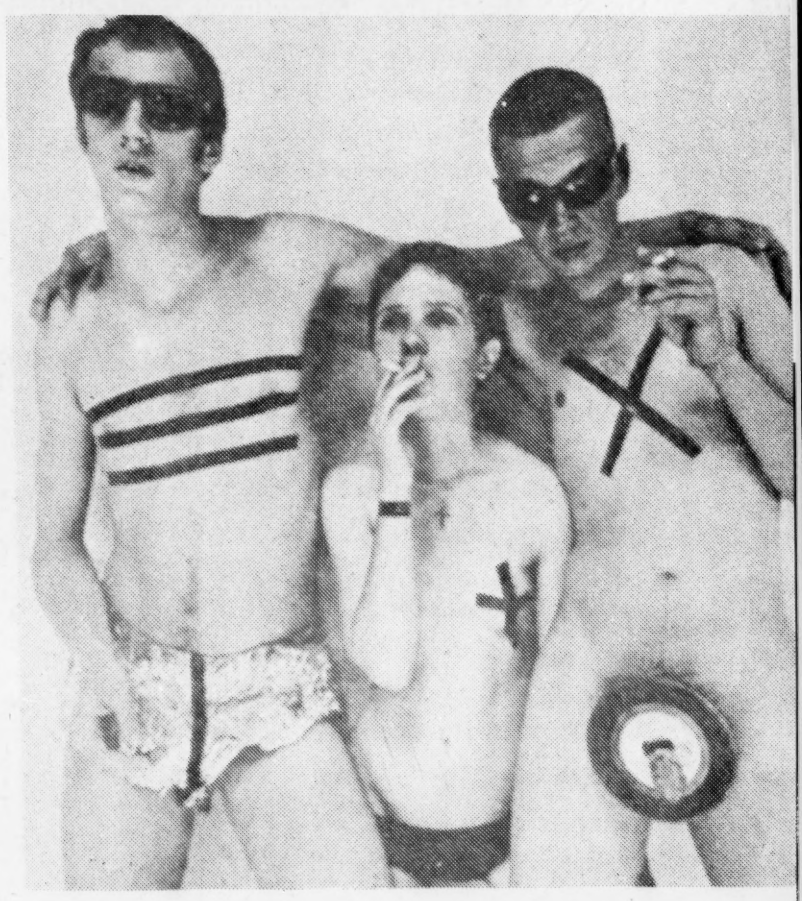


SLUGGO!

***Sluggo!* is the Austin, Texas** punk journal – an amazing offset fanzine in various colors of inks and paper. Energy fairly drips off the pages, where cultural, political, *and* musical opinions and news vie for space. Plenty of strange art, comic strips, and interviews. And they print it in their own basement!

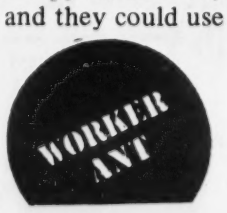
Sluggo! (priceless, subless), P.O. Box 755, Austin, TX 78767. (If you send for a sample copy of this one, send at least $1.50, it is well worth it and they could use it.)

DAMAGE, THE DON'TS, PHOTO GEORGE WESCOTT



BUTTONS BY JEFFERRICK/CREEP

Box 428, Sausalito, CA 94965



An unexpected side effect of the languishing death of "fine art" has been the shifting of art activity out of galleries and museums, and into the media. Enter ads as art wherein surrealism hovers over grids of boomerangs selling you the addresses of boutiques. Ads as interior brain decoration. Perhaps this interchangeability of ads, art, and editorial matter is nothing new (*Rolling Stone*, as previously mentioned, approaches it).

BOULEVARDS

And certainly the urban ad tabloids where it flourishes are as much gay in ambience as new wave. Whatever the case, ***Boulevards* in San Francisco** is better done than most. As a free monthly tabloid distributed to numerous stores it gets read by thousands. Ads for punk stores sit next to ads for flower shops next to movie reviews. Fifties chic meets disco spif. All is style, but the price is free. Superfluous but indicative.

Boulevards (cover price $1; subscription $8/yr.) 1008 Sutter St., San Francisco, CA 94109.

As we go to press, *Boulevards* announced its new very *unfree* prices above. Sic transit gloria mundi.

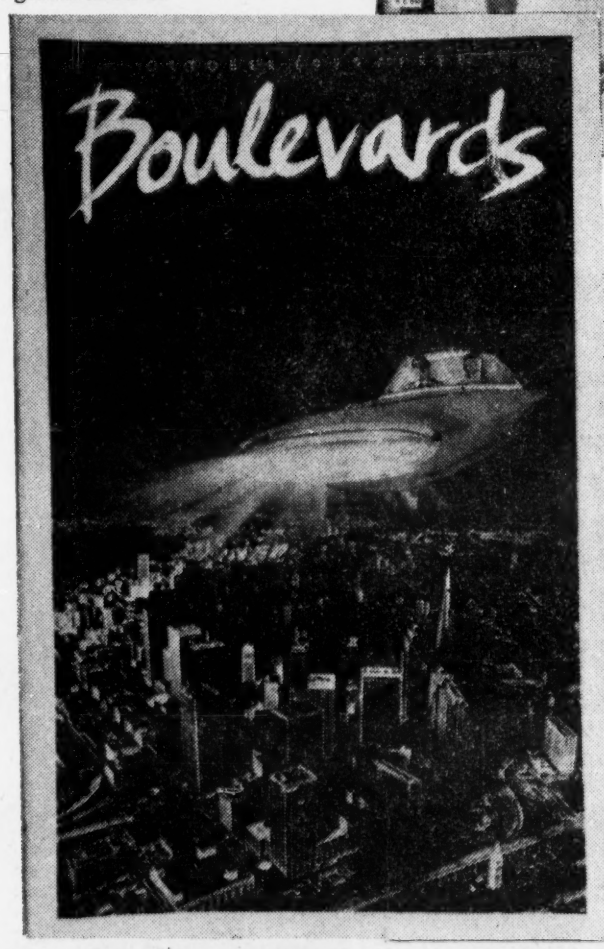
A word of caution on ordering these periodicals – as with the underground press of the '60s many new wave publications have appeared to fill a need or express a mood – which they do far better than turn a profit.

Except for *NME*, *Wet* and *Trouser Press* I'm not sure that I could predict the continued existence of the reviewed publications a year from now. On the other hand, your trusting subscription may help them survive. If ordering sample copies, add $ .50 to single copy price for postage.

WET

Wet*, reviewed in a previous *CQ as the magazine of Gourmet Bathing has long since left hot tubs behind for the greener pastures of life-styles. *Wet* tends to be *Boulevards* in spades with color covers, more text and a $1.50 price tag. The connection to new wave is tenuous at best but it is part of the mix.

Wet (cover price $1.50; $8 for 6 issues), P.O. Box 1017, Venice, CA 90291



NART

On a final and more ironic note is *Nart*. If ads are now art, art is dead . . . "Viva el nart!" A striking magazine printed on book paper, it is poised somewhere between nihilist humor, new-wave politics and nuclear angst. *Nart* is the product of nartists active in San Francisco punk circles. As much as any of the magazines above it demonstrates that music and hanging out are only part of the picture.

Nart (cover price, $1.75; no subs), c/o J. Perkins, 2418 California, Berkeley, CA 94703. ■

JELLO BIAFRA/NARTIST

THE WHITE HOUSE

WASHINGTON

September 4, 1969

We made a drug, we're gonna try it out on you, it won't make you die, just a little bit sick, like a three day cold that goes on for months.

You never feel quite up to par, barely have time to stay on the job, never have time for anything nasty, get lots of rest and all that shit.

If we double the dose in the water supply, you get even sicker, start missing work and getting depressed--like lots of your friends.

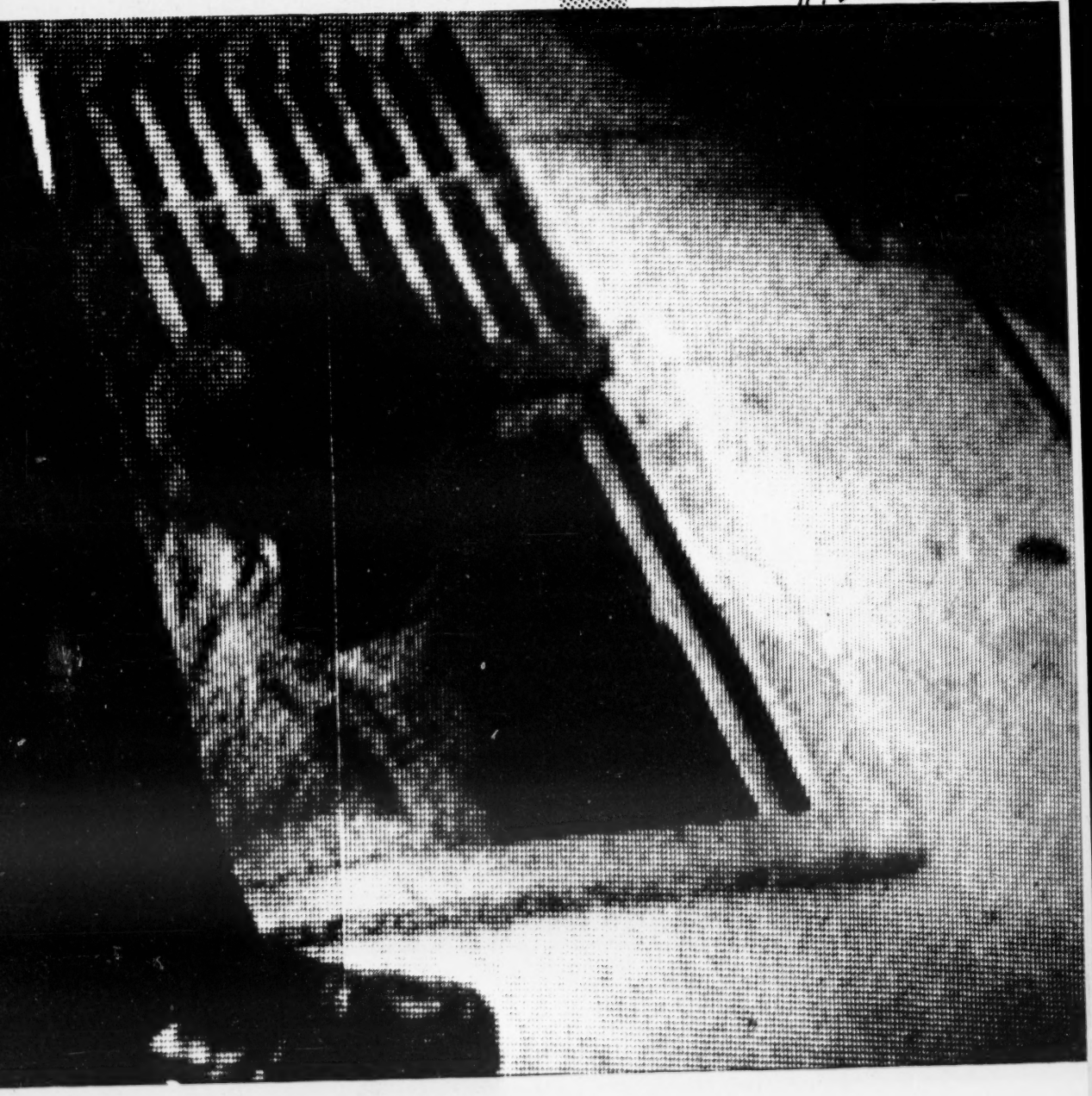
Some kind of bug's going around.

We'll feed it to Russia, or someone like that, keep 'em behind by slowing 'em down; little by little, their out-put shrinks.

But we aren't quite ready to try it on Russia, in the meantime, we'll see what it does to you.

11:35 AM

NO ONE
S CONCEALING
ANYTHING
THERE IS NO
MYSTERY
WHATEVER



NART, FAST CHEAP AND EASY — TUT'S DEAD

TWO STORIES HERE. "Background Music" and "Born-Again Lover" (p. 131). Both about losing the thread and finding it again – the real activity of a lot of us these days. Both by women; both regional as hell, as many of us unexpectedly have become. –SB

Background Music

by Marylee Mitcham

illustrated by Tom Parker

FALLING ASLEEP was regularly a time of comic relief and music except the relief was not exactly relieving. Paula would be lying in bed praying – begging, really, for peace, pardon, mercy . . . anything – when suddenly she would notice her toes keeping time to another, less austere rhythm. Briefly put, her toes were conducting the crickets and other insects of the Kentucky night. Chirping and scraping in alluring crescendos, the tireless performers bewitched her toes and interrupted her genuine, if unstable, contrition. This was bad enough but the next stage was even worse because it afflicted her thoughts as opposed to her appendages. It consisted of original musical compositions and more ominously, of voices.

What was the one she heard last night? Oh yes, "Blue Moon" sung to a different melody and with different words but recognizably "Blue Moon." At first she thought it was her son singing and this rather charmed her until she foggily reminded herself that he was only five and therefore not husky-voiced. Reassured by this evident grasp of the situation, she shot one last plea heavenward and allowed herself to be claimed by sleep.

Only it didn't work. Apparently there is no rest for those who hear voices, especially when the voices were as eccentric as hers.

"I have sautéed my feelings," her singer twangingly interjected. "I have sautéed my feelings. Blue-oo Moon-ah."

"Go away," she thought sourly. "You're not my type. Go sauté your feelings in some other frying pan." At night life was plainly a ridiculous affair. If she died at night it would probably be slapstick all the way.

"Oh God," she moaned, "save me from me." After which prayer, she fell asleep.

more →

Marylee Mitcham may be introduced to CQ *readers as the mother of Mark Mitcham, whose "Mole Jokes" in the Spring '78* CQ *show signs of becoming a national phenomenon. The family lives near New Hope, Kentucky, in association with Thomas Merton's old Trappist monastery.*

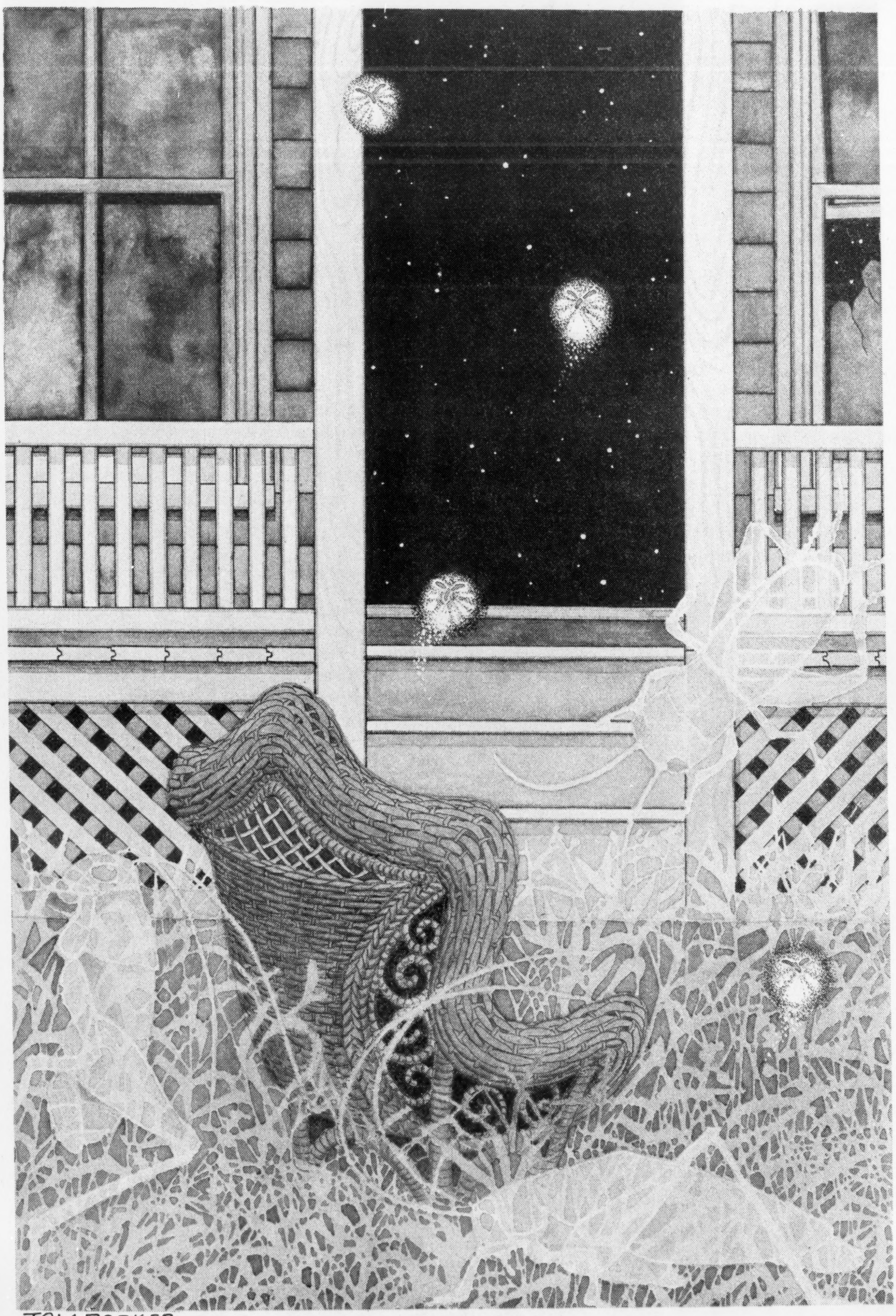
Susan Dollenmaier of "Born-Again Lover" reports from Tunbridge, Vermont, "Based on the experiences recounted herein, I am leaving Shangri-La, and like the bear in the old fable, I am climbing up the mountain to see what I can see."

–SB

I grew up on the Ohio-Indiana line. . . . lots of corn and deserted drive-ins. There was never a view that you couldn't find again a few miles down the road and each June a jacked up '64 Chevy would run square into a concrete bridge abutment with a load of graduating seniors on the way back from the Dairy Queen.

The Midwest really wouldn't be the same without its highschools. The first half of life was getting out and the second half was getting even. As a junior in college I still wanted to sneak back and lock a road-killed dog carcass in one of the empty lockers.

–Tom Parker (illustrator)



TOM PARKER

Box 428, Sausalito, CA 94965

Her days were serious enough but dry as dust. All her daytime metaphors were cliches. She rose with the sun, ran around like a chicken with its head cut off, and worked like a dog to give her son a *real home*, even though there were only two of them.

All I have to do now is sweat like a pig and Jordan will almost have that farm I moved out here to get.

"Hey, Jordie, what'd-ya-say we take a break from this jerky life and go see a movie after I get home tonight?" She asked him this one morning, doing a gangster impersonation and dishing up oatmeal. "I mean, let's go fool around in fat city."

"I thought we were going to pinch pennies?" He pinched the air solemnly.

"Ah Jordie; listen Mac, that was last week! I mean, we gotta have some fun once in awhile! Ya know kid," she gave him a confidential look, "till we get that farm, we'll just have to make hay someplace else – get it?"

She was so worked up hopping around and doing her tough guy act that the breakfast table was fast becoming a pitiful sight with dribbled milk and carelessly spooned-out sugar. Jordan liked things tidy and his mother's gangster impersonations disoriented him. He could never figure out what she was trying to prove by acting nervous and talking out of the corner of her mouth. Besides, movies usually upset him; so he changed the subject.

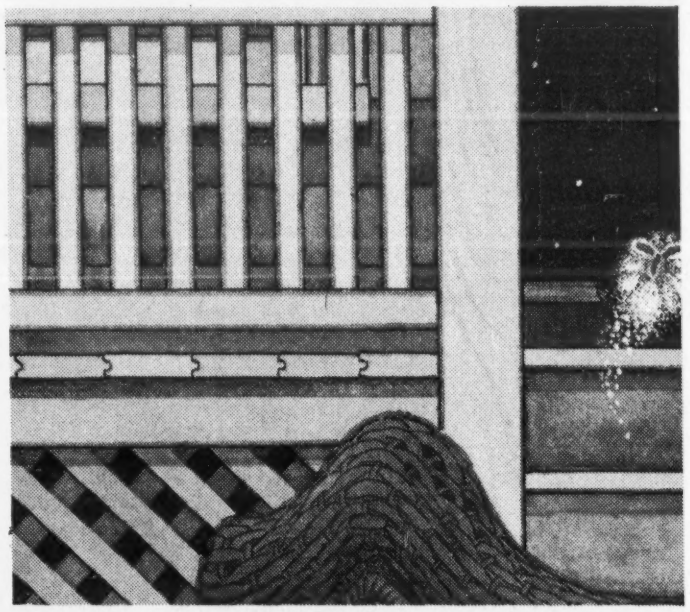
"I bought a fat dream last night!"

"Did you?" she asked, suddenly interested in his inner life. Her own dreams were bizarre but Jordan's were pure as rain and tugged at her feelings in a way that left her both melancholy and grateful. It seemed that her dreams only presented the confusion, but Jordan's dreams saw through the pain.

Virtually every night they went through the ritual of going "to bed, to bed, to buy a fat dream" and part of her prayer was always that Jordan would rest well and have good dreams. She wanted to spare him suffering: "no trespassing is allowed in this child's mind."

After Paula stopped smiling and relaxed, the gangster left her personality entirely. Jordan liked to see her calm and *right*, looking like someone from the olden days with her hair parted in the middle and pulled back into a long braid. His mother was pretty – even if she hadn't been his mother, he knew she was pretty. How could she be unhappy, he wondered?

Were all adults unhappy? Movies made him wonder. Did *right* and *pretty* go together? Or *pretty* and *happy*? Adult life from his five year old perspective looked like one big upset. He considered the



prospect of growing up with something less than enthusiasm, a lot less; and this worried his mother. He wished he could tell her it wasn't her fault. He thought about things himself, looked way past her. But the more complex his reasoning became, the harder it was to say anything, even to himself.

"Tell me about your dream, Jordie. Was it happy?"

"It was," he replied solemnly in much the same manner as he had pinched pennies in the air. His dreams were not complex or confusing and to think about them made him feel good. "It was about the Mother again. There's this Mother, you know?" Now it was Jordan's turn to fidget. "She wasn't you but she was nice like you and I was walking in the forest with her. Then we came to another path and we couldn't decide which way to go. But I wasn't scared! She wasn't scared either. After awhile she said, 'I'm going this way. Which way are you going?' 'I'm going that way too,' I said. Oh, Mama, it made me so happy. I wish it could have been your dream too."

"Were you her little boy?"

Jordan put his head down to think and his dark hair fell over his brow. Watching him affected her strongly; she felt an impulse to weep but a voice in her head started clowning.

"Pang," the Texan called out merrily. "Pang, pang, you're dead!"

Jordan lifted his head. "I don't think I'm her little boy. Her little boy's at home."

Jordan had been dreaming about a Mother off and on for several weeks now and Paula was aware of her own growing involvement with the figure in her son's mind. This woman, "nice like her," even looked like her. At least she wore her hair the same way. And she wore a long blue dress "with ribbons," whatever that meant. And no shoes.

Paula couldn't decide if this Mother was well-

"Hear all those crickets singing? You know how to conduct them?"

dressed but oddly wore no shoes or if she was earthy, with only a few ribbons for color and charm. Jordan's description remained vague but for Paula it didn't matter. The woman herself was true as the sound of chimes and she walked and walked, snakes going down under her feet.

"I am the mystery, you are they key," Paula said to herself. "Here is a mystery – give me the key to unlock this mystery." Abstracted, she played with various words to see how they made her feel.

"How come you're talking to yourself, Mama?"

"Oh, hi Jordie. I'm silly aren't I?"

"How come you're saying 'mystery key' and stuff like that?" He finished his toast and wiped his hands carefully on his bluejeans.

How on Earth was she going to raise this son who went around disguised as a five year old?

"Well, I'll tell you." She poured herself another cup of coffee, ignoring with the privilege of a grown-up, her unappetizing bowl of oatmeal. "I was thinking about that Mother in your dream. I wish I were like her and knew which way I was going and didn't get all excited about nothing. You know what I mean?"

"Yeah. Me too."

"You too, what?"

"I wish you were like her too. Then maybe you'd be happy."

"Jordan, I *am* happy! Aren't *you* happy, baby?" In an unconscious, harassed gesture she smoothed the hair alongside her face. Then she reached out. "Come over here and sit on my lap for a minute." She cradled him almost like an infant, rocking him back and forth with her body, pressing her mouth in his hair. She hummed a stricken tune and tried not to think how it felt to grow up with an unhappy mother.

I ain't nothing but a pun, hun. Dee, dee, dum, bum bum.

Son of the Living God, have mercy on me a sinner!

Going to bed was definitely the worst time of day. On the whole, she approached it wryly, let go of herself willingly. Who would not surrender when they saw the battle was lost? Besides, her waking life was dull and not worth more than sixteen hours of her time.

Nevertheless, going to bed had become very hard of late because of the sorrow. More and more it overwhelmed her at night and it was something she did not want to feel, did not understand at all.

When she called out ancient prayer formulas in response to the sorrow, her cry seemed a thin wail barely distinguishable in a clamor of louder, heartier voices. Even her flesh threatened to drown out that wail, to smother it in the satisfaction of having clean linen and throbbing night sounds at her window.

Once a cricket found its way into her room and in spite of real misery, she had burst into thankful tears. A live cricket, singing inside her room! But in the morning her dull brand of misery was still there like a hangover. And if one cricket might have been God, the knowledge of insects under her bed had the reverse effect; she wasted ten minutes looking under the bed and sweeping her room. She never saw the cricket *once*. God the escape artist!

But Jordan's dream was full of promise. It was not a joke to either of them.

A week went by in which, as usual, little happened. Each evening Paula picked Jordan up after her shift at the paper-products factory fifteen miles away. Her life had little movement except at work where the making of disposable dishes was a priority so urgent that the plant hired everyone in the vicinity and worked them in shifts for maximum production. At the end of each day they settled into a compatible funk, he being drained from the incessant activity of play as she was from work.

Since he had been dreaming of the Mother, though, their time together seemed more valuable. Her presence was a beckon to both and they were willing.

Tonight, though, it was off-key between them. Jordan was evidently irritable and seeing this, Paula suppressed her own irritation at having to deal with another person's mood. She wondered how early she could put him to bed. He had been angrily constructing a house with the pinochle deck and to watch him was to see a small furious attempt at domination. Her annoyance increased.

"Jordan, the only way to make a card house is to

do it slow and easy. Why don't you put the cards away now?" She didn't look up until she heard him throw the deck.

"This is the dumbest, dumb, stupid bunch of . . . ."

"Hey, kiddo, cool down." Her voice was phony and tough.

"Don't talk that way! That's the dumbest, dumb, stupid . . . ."

"Jordan!" She was shocked. Okay, she *was* going to have to deal with this person's mood.

Trembling slightly, Jordan stood up, all pride. His manhood flashed across her mind, a quick train of thought in which she perceived his separateness in time, space, and gender. Momentarily, she considered motherhood: not as a warm instinct within herself, though she knew it was that too, but more dispassionately as work, not even her own work but another's. Unsure of what was expected of her next, she nevertheless led her son out to the front porch and the depth of her lightning-like perceptions gave her the air of someone who was confident. Jordan scowled at her and wished he could say what he felt: that she was beautiful.

"Let's see. . . . " She said it smoothly, a little tentatively. What next? She was tired and knew Jordan was too. They sat down on the stoop, not touching or looking at each other. In front of them stretched a country road and the next door neighbor's fields, now mostly dark and smoky looking. They stared past the road at the bordering fence row tangled with honeysuckle, small cedars, and other green life Paula never much noticed.

This was the country alright, or at least as close as she had been able to get – the edge of town. Silly of her to think about farms. She couldn't even handle an old house with its maze of faulty systems.

Finally Jordan spoke, indicating his mood had changed, "Can I go turn on the porch light?"

"We don't want to do that, Jordie. Then all the bugs would fly right at us. We don't need the light – there's nothing scary out here."

"Yeah. I guess you're right."

In a few minutes he spoke again, "I wish we had a pet owl that would hoot us up in the morning."

"Me too. Once I had a pet cricket that cricked me to sleep at night, though."

"Really?"

"Yep. Hear all those crickets singing?" She leaned over and picked up a stick. "You know how to conduct them?" Then she showed him, modestly, not trying to be the Grand Maestro. He took the stick and quickly found the right tempo.

"This is fun, Mama! More fun than my dumb old dream . . ." His voice faded out as though he had lost interest in everything but his orchestra.

She didn't draw him out but her stomach registered the end of something good, and she stared more intently than ever across the road. Just think how many bugs and gophers – think how many snakes! – were over there right now. Hidden over there. Even in the light, you couldn't see or remember to look. Amazing. . . .

When Paula failed to reply, Jordan returned to the subject. "She just left me out there in the dark! I *told* her to wait but she just didn't. I was scared!"

"Oh, I bet she knew you'd be O.K." Paula still had a lot of faith in that Mother.

"But I was scared," he repeated stubbornly.

"Jordie, listen to me. Being scared isn't important. What did you do after she left? That's what's important."

She walked off and left you too – all alone with your grade B dreams. No importa.

"Hey, you're forgetting your music." She found herself another stick and began to conduct with a light touch, trying to find music behind the obvious rhythm that Jordan had heard. There it was.

After awhile she looked over at him knowingly. It was completely dark but she spoke in a grand, unmistakable manner. "You've got to practice to get good, Son." It always seemed to happen, this last frame of mind where comedy overtook her. But Jordan's earlier rebuke had made her sensitive to the ridiculous.

So Paula stood up, a no-nonsense, quite cheerful woman. "Let's go to bed, Jordie. If we can't buy fat dreams, we'll make do with skinny ones. Right?"

"Right."

"You feel better now?"

"Yeah. Maybe if we get a pet owl, I can train him."

"You never know."

Tonight the Texan chanted monotonously. *Have you crimed the heavy solve, my love, have you crimed the heavy solve?*

Nope. The crime remains unsolved. Sleep tight cowboy. Don't forget to close the mystery softly when you leave. . . .

Then swirling in familiar sorrow, she called on the Lord of Heaven and Earth and was swiftly borne into sleep. ■

Oh Brother — trapped all night in a condominium with my high school sweetheart. What would the pious old beatniks back in the Green Mountains think of all this?

Born-Again Lover

by Susan Dollenmaier

illustrated by Tom Parker

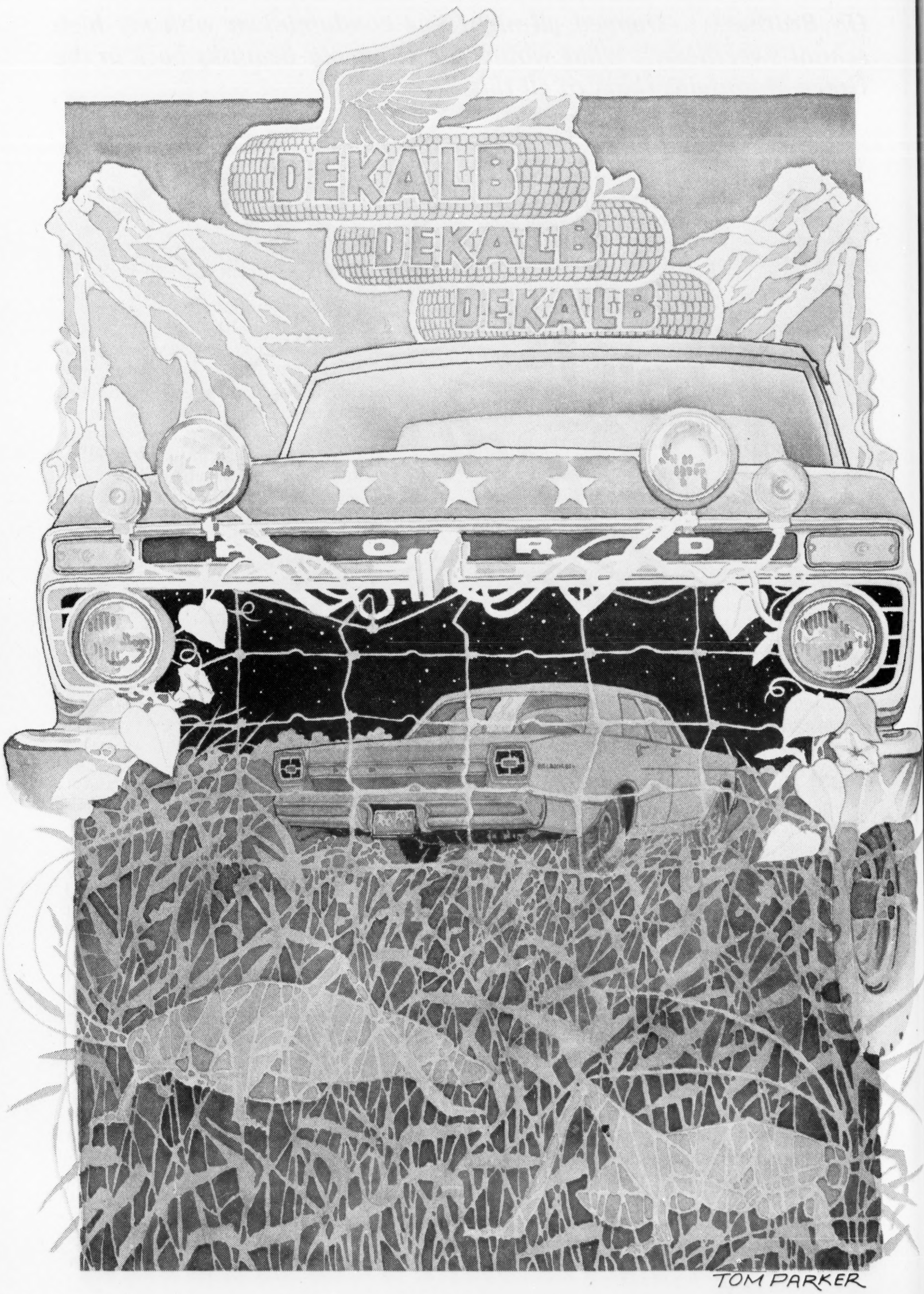
I TOOK ONE LOOK at him, climbing out of his white Ford pickup, the blue stars on the front, and I knew I was in trouble. My chest was dancing and I'm saying to myself, "Jesus, woman, what's this all about?" And the next thing he's coming up the back steps to my folks' house. I'm waiting at the door, just like it was – 17 years ago. There's a smile. He said something I couldn't make out. But it doesn't matter anyway. After that I stopped being in control . . . something else took over.

Here he was. Tony. In the flesh. My first true love. My first lover – arisen. He looked surprisingly the same. Gentle eyes. Strong nose.

He had called the house on Christmas Eve, where I return every year, with all my brothers and sisters, for an old-fashioned holiday celebration. The call was amusing and curious at the time, my sisters laughing in the background. We'd get together in a few days. Now – he was here. Sitting by the fireplace in my parents' home. How weird. All these years gone by.

I can't remember all the details of what was said at the time. I brought out some slides of the house my husband and I were building ourselves in Vermont; confident with the back-to-the-land respectability of it all. I began to tell him about my recent life – about the woodburning furnace and the composting toilets and serving on the board of the local arts center. I told him about the small woodworking business and the herb garden and the cross-country skiing. Suddenly I realized that I was telling him all of this as if I had arrived at some ultimate situation; as if I had come to the end of my life. It startled me and made me uneasy. It was all too pat. Hints of a revelation. Something was wrong with the explanation – something dead.

It's difficult catching up on a lifetime in a few minutes. What can you say that makes sense? You can name the places you've lived – the schools – the people – the main events. But in doing this, you leave out the meat of the matter; you leave out the substance, the soul. "First I lived in Madison, then New York, Boston, Carbondale, California and now Vermont. I'm finally putting down


DEKALB
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TOM PARKER

roots. Can you believe it? I guess you could say I'm sort of settling in after all this time."

A well-given speech, to be sure, but my heart wasn't in it. All the places I'd lived were unimportant, ridiculous. The only things that truly mattered were the motivations and dreams that prompted each move. In every case there had been a catharsis and then a moving on towards a vision. That was what we needed to talk about and explore. Something was brewing, something unexpected. We decided to go for a ride and climbed into his truck. The two of us driving on the same old roads of long ago. I let the spell come over me. There were all kinds of signposts and cues that we were picking up on. Things were starting to happen.

When we had been kids in Illinois, it had been a paradise of sorts. And I still get short with easterners who believe that the midwest has no beauty of its own. When we were in high school, there were giant flowing old farms. Working farms. And hot summer nights that made you go crazy. It was so warm at night you could drive around in your bathing suit; every pore on your body wide open, hell-bent. Cars rippling with half-cocked kids on the edge of their seats, ready for adventure, ready for anything. We were on the cutting edge of the New Frontier. Space was opening up and the possibilities were overwhelming. The sky was the limit. There was a feeling of invincibility and wonder that we would carry with us into the next decade. We were going to need it, no matter which path we chose. Energy was plentiful. Ecology a rumor. But unknown to us, Viet Nam was lowering itself onto its haunches; crouching for the spring that would claw and tear its way through the country, turning us against each other, the same kids in that car; cleaving open families and friendships, leaving us all wounded, stunned and never the same. Some of us for better and some of us for worse.

There is nothing like those hot, humid midwestern nights, filling up your windshield with red sunsets behind corn fields and silos. The air was fertile and thick. Tony and I used to drive his daddy's gold Ford Galaxie up into the pasture and close the fence behind us. It was there that I had my first lessons in lovemaking – a Naughahyde proving ground. We'd take off our clothes, lying in each other's arms and kiss. These days, kissing is lost in the shuffle. Back then, it was big stuff. It was important and passionate. So – we'd start out kissing, then touching and wetting and rubbing. Our technique was empirical. No one to tell us about the myth of the vaginal orgasm. We just did what felt right and got each other off any way we could – except for straight out fucking. That was taboo. Those nights were pure and spontaneous. The windows would steam up and the car would be redolent of fresh, hot sex. It smelled healthy and alive. And every time we went to that spot, it would happen just that way. Eventually, we'd get dressed and drive to my back door, the same one he had just walked through, where I would receive a demure kiss as a cover-up for the conspiracy.

Ultimately, we succumbed to social pressures and I lost my virginity to him on his parents' grey wall-to-wall carpeting. Johnny Carson was glowing above my head in black and white. It was a big let-down; so cold and methodical and boring. Things went downhill after that, because we stopped being playful and started getting serious. It would take years to regain the easy play and fulfillment of my earliest sexual encounters, and then only sporadically. It would take hours of conversation and reading and support from other women to begin comprehension of any of it. Not too long after that night on the floor, we broke up and went off into the world.

But now here we were in his truck, on the way to visit another old friend from high school. He was feeling the spell too and it was getting stronger, but neither of us mentioned it – too out of focus and unexpected. All these images kept popping into the cab. The town was different now, but together we shared a vision of what it had been – an easy rural village transformed into just another dead suburb. Tract homes and shopping centers forever covering some of the richest farmland in the world. Agriculture and community giving way to corporate transiency. My chest heaves every time I pass what used to be the homestead of my great-grandparents. All blacktop and cement and shrubs made out of plastic. Casualties in the glacier of mindless expansion. It makes you ache to look at it.

All these images and memories drifting through our minds and in those moments we shared a real and powerful understanding of what had happened. But even in that mood of despair, there was some small hope. A glimmer to be sure. Another survivor. Someone we had known and loved long ago. A lost comrade.

We drifted to the house of our old friend, home from Colorado. We drank some brandy and told stories that only the people in that room would understand or care about. Old laughs. Old music to my ears. We were grinning and happy to be reunited after all this time. We bolstered each other up somehow. You could feel it. But we all had family commitments that evening. A sign of the times. Too bad, we were just getting started. Another time, for sure. But I don't think we truly believed it. Hesitating, not really wanting to leave, we climbed back into the truck for the ride home, but now the brandy had loosened feelings a little and we began to touch on more intimate subjects – our work and our dreams. We went straight to

By now, we were outlaws again and ready to ride – pushing off into the unknown just for the thrill of it. To hell with maturity and responsibility and mortgages and meetings. To hell with all the goddamned disappointing and unexplainable things that had come down in the last years.

the heart of what ailed us – dead center – our conversation crackling, carried away by this strange and powerful reunion. He stopped for a few minutes in a field to throw some firewood on the truck. Grey dark winter sky. But there was that same unmistakable sunset, more orange than red in winter, but still the same. And those huge agonizing oaks on the edge of the field, crucified against the twilight, one at a time. Nothing like that back East – no sir. We stepped out for a short while. Statues in the field. The wind whipped us and the snow cracked under our boots. I was glad to be there. We said very little now. Our eyes watering in the dusky cold that brings on nightfall. We were frozen. Shimmering for a moment. Then we went home.

Confusion. I spent the next few days trying to figure it out – I didn't accomplish much. How can you unravel the extraordinary? We spoke on the phone a few times, but we had definitely retreated. Protecting ourselves. Keeping cool. But the day before I was scheduled to leave, he called and something happened. Perhaps we thought we would never have the chance again, but for some reason, we let the guard drop and began to unfold, ever so gently, our impressions of the day we had spent together. Yep – he had felt it too, as mysterious as it was. Our voices regained the confidence of our first meeting, as each confession prompted the next. It felt good to get it out, a relief. We spoke of seeing each other next year and made promises of some communication. Promises. Finally, he said he would call in the morning before I left for the airport.

At this point in the story enters the Divine Plan. The kind of intervention – the sort of celestial monkey wrench that keeps you hoping with wonderment. That last night at home I had promised my brother to babysit for my two nephews. They were forecasting 2 - 4 inches of snow on the radio as I drove to their house. Instead, we got the Great Blizzard of 1979. Holy Mother of God. In the morning when I awoke, I was snowed in – alone with those two kids. The phone rang. It was Tony. Without a doubt, the storm had been sent for us alone. Twenty million people shovelling driveways and huddled by fireplaces so that we could have one day together. Sometimes the spirits play favorites. It had been a long time.

His truck, the great star-beast, pushed through the snow to my brother's house – four wheels turning. I held the front door for him, the wind blowing in my face. We kissed, snowflakes all around. First time in years and years. It was fluttery and sparkling and strange. We were transported by divine circumstance and the elements. Parts of us, suspended for eons, were awakening to the tremors; the magic was returning. There was playfulness and laughter and light in the air. My nephews stood staring at their crazy aunt and her "old friend." And just like in Hollywood of old, outside the screaming winds drifted and sculpted the backdrop.

At last my brother made it home and warned that we shouldn't try to leave. He had to be kidding. His caution was lost on us. By now, we were outlaws again and ready to ride – pushing off into the unknown just for the thrill of it. To hell with maturity and responsibility and mortgages and meetings. To hell with all the goddamned disappointing and unexplainable things that had come down in the last years. We were back, if only for a day, and ready to roll. Out the door – whooosh – off into the white-out – encapsulated in that truck. Indestructible. Nothing could touch us. Cars and people scattered all over the road, but we plowed through; the great white steed, snorting blue stars. Guided by the spirits, the road opened up for us.

In a waking dream, we came upon the home of a friend of his. A condominium on a piece of used-to-be farmland. Symbolism running rampant. It had one of those ludicrous names that seems to fool people a lot of the time. Surrealistic scenes: a stewardess, up to her thighs in snow, trying to dig her Royal Blue Corvette out of the parking lot to go shopping with her white German shephard. Unbelievable. She'd never seen a Natural Disaster before.

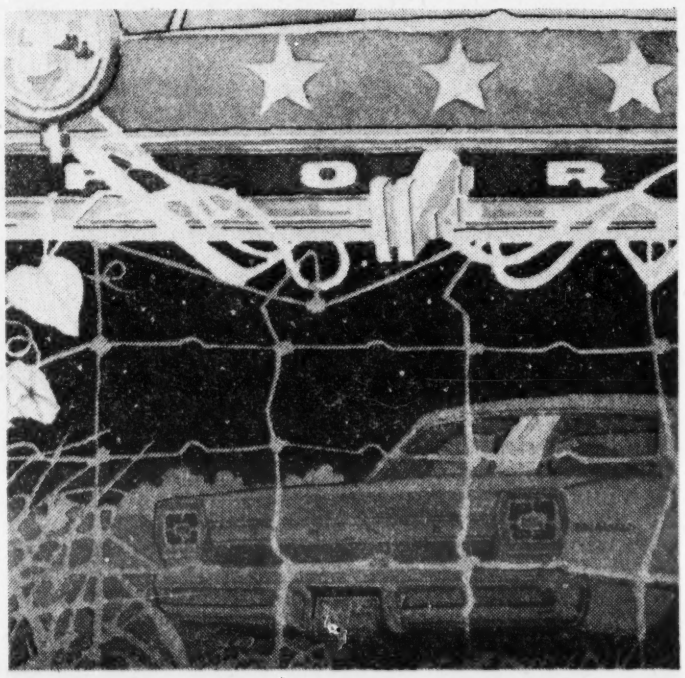
We waltzed into that apartment knowing full well that we wouldn't be leaving. The cars pulling in behind us were stopping dead when they hit a drift. People were abandoning their cars. Oh Brother – trapped all night in a condominium with my high school sweetheart. No one would ever believe it. What would the pious old beatniks back in the Green Mountains think of all of this? Ah well – what did they know any more, the poor suffering soldiers of self-sufficiency. All gloom and sour grapes and talk about their rototillers. Talk about the revolution they think never came. Talk about the holocaust just around the corner and their compost pile and their wood pile and the poor attendance at the co-op meeting. God, they're out of it. And who was I kidding? – so was I. No magic left in their lives – almost as bleak as the poor souls in this condo. A different style, that's all. They are stuck. They've lost the dream, or rather they accomplished one and didn't build another. No vision of the future, and they don't even know it.

Their kids know it though. Kids with names like Rain and Cheyenne and Dylan. Kids in vegetable-dyed, hand-spun sweaters who don't see the romance in milking the goats every morning. Kids on whole grain diets sneaking candy bars at the general store. Kids who would rather watch TV and ride motorcycles; itching to get the hell out of there. They should be here now, these friends and neighbors of mine. I'd invite them to hold hands with an old lover or take a sailboat around the world; to rethink a life we've started taking for granted; that we've accepted as the living end. I want them here. Lighting up. Walking on water. It was all coming back to me.

Resting on the couch, we spoke quietly for a long, long time. The dream flowed through us. So much to touch on and rediscover. Eventually, I called my mother and listened to her eyes roll as I related the details of my whereabouts. "God works in mysterious ways," she said. That did it. I gave myself up to whomever was conducting this revelation. Our fingers touched, tip to tip, as we huddled close to strip away the layers of the superficial; heading straight to the heated core – to the fears that we held in common; to the spirit that, miracle of all miracles, we still somehow shared. What a blessing. How little delusion with someone you have known that long and that intimately. You know them in a way that's almost intuition.

After a long while, we were silent, softly anticipating what lay ahead that night. In the bedroom, we took off our clothes, unembarrassed, and lay next to each other, touching shoulder to shoulder, face up on the bed. We whispered now in images – all poetry – of the time that had rolled over us; the awesome innocence and wonder that had given way to a faint tracing of understanding. We spoke of the future and the profound need to remain open to it. And at last, we embraced gently, tenderly, and made love to the rediscovery of an old friend. Forgotten desperado. A sort of celebration. We had come full circle. Summer nights emerged from the rage beyond the windows: the golden Ford, moongleam on tangled bodies, field grass damp with evening, unsuspecting vows of love forever. We let it all go.

And all that night I lay awake, hallucinating and shivering. The air broken into golden particles of enlightenment. But in the morning, I emerged alive and well; unhinged but victorious. Renewed. I had crossed over. I had exorcised a demon. The know-it-all complacency cracked, and like a single stick of dynamite strategically placed in a building scheduled for demolition, my life, as I had known it, was coming down around me. I had tasted something long forgotten. Turned a corner. Encountered a milestone. I was injected with new wonder; infused with interest and purpose. It was held in my heart, so I knew it was true. And when we left that building the next day; when the cold blizzard sun hit my face, I knew for certain that things were unalterably changed. My predictable world had been mowed down by a bona fide revelation. Trusting to the future – once again – I was stumbling wide-eyed through the drifted snow, all curiously child-like and breathless. ■



...and now, those cute, adorable little

BEARZY WEARZIES

© BY R. CRUMB '79

JIPPO'S PONDERING THE BIG QUESTIONS...

HOW DO YOU EVEN **BEGIN** TO UNTANGLE YOURSELF FROM THE BIG ILLUSION??

WE ARE CONDITIONED FROM BIRTH TO ACCEPT A CERTAIN VIEW OF REALITY! THERE ARE LAYERS UPON LAYERS OF THESE HABITUAL RESPONSES!!

DON'T PANIC... YA GOT TO WORK AT IT...

FERGIT IT!

PRACTICE MAKES PERFECT, BUNKY!

YEAH, YOU TALK IT UP... WHY DON'T **YOU** DO IT?

ANYWAY, PRACTICE **WHAT?!**

PRACTICE DETACHMENT... TRY TO PRETEND YOU'RE IN A BIG MOVIE, AND YOU'LL COME TO SEE THAT YOU **ARE** IN A BIG MOVIE!!

WORDS TO LIVE BY ALRIGHT, BOOPS, BUT ONLY THE MOST DEVOTED MYSTICS CAN ACTUALLY PULL IT OFF...

I'M TOO BUSY TRYING TO HAVE FUN, MYSELF... NO HOPE FOR ME!

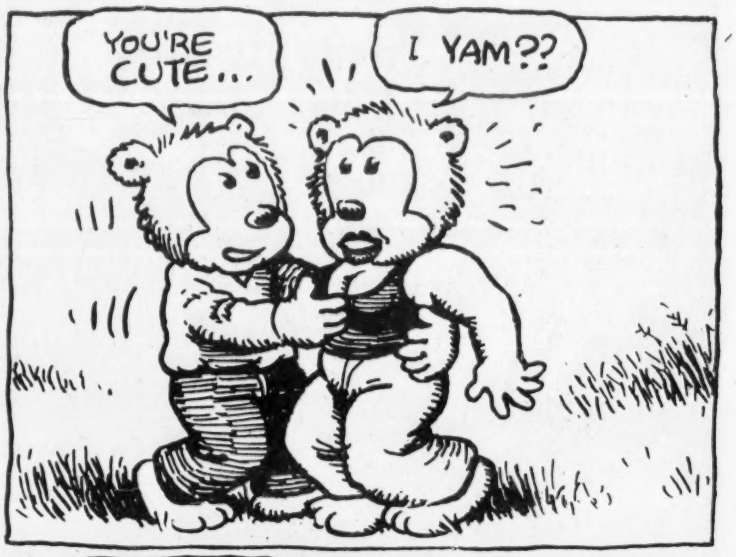
THERE'S NO PEACE FOR THE LIVING... I'M CONVINCED OF IT...

YEAH YEAH, MAYBE SO, BUT HELL, DON'T TAKE IT SO DAMN **PERSONAL?**

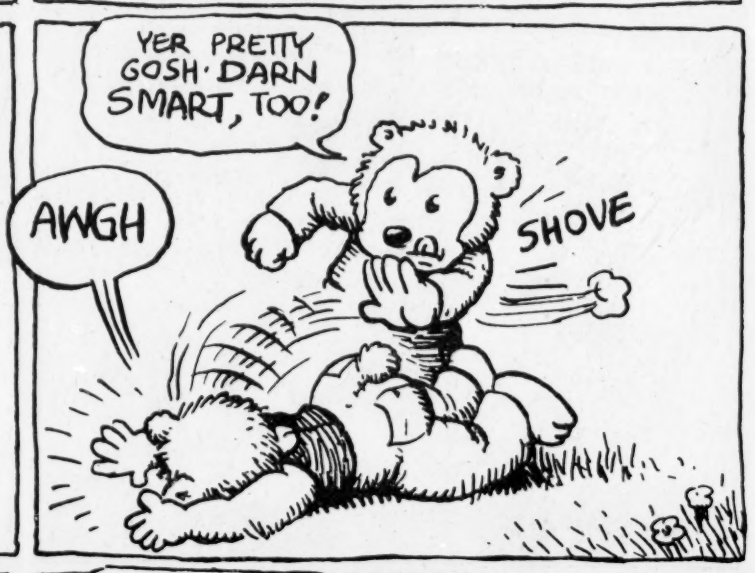
WORRYING ABOUT IT SEEMS **FOOLISH** TO ME...

YEAH, **YEW...**

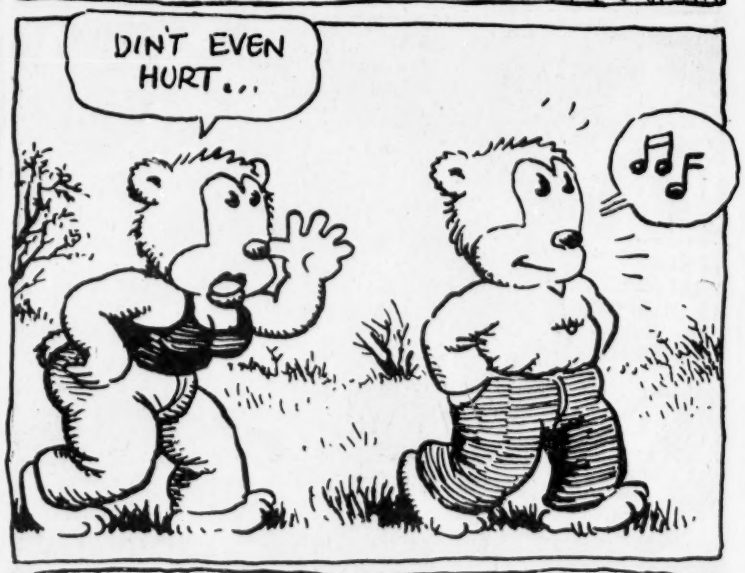
HOW 'BOUT WHEN YER HORMONES START ACTIN' UP?? THEN YOU WON'T BE SO COOL!
SO, AT LEAST I GOT A GOOD EXCUSE! WHAT'S YOUR EXCUSE, BUSTER?!?


YOU'RE CUTE...
I YAM??

YEAH, YOU ARE... AN' Y' KNOW WHAT ELSE?
NO... WHAT? TELL ME!!


YER PRETTY GOSH·DARN SMART, TOO!
AWGH
SHOVE

TAKE THIS! 'N' THIS 'N' THIS 'N' THIS!
BAF
BAF
BAF
BAF
AOW
AOW
AOW
AOW

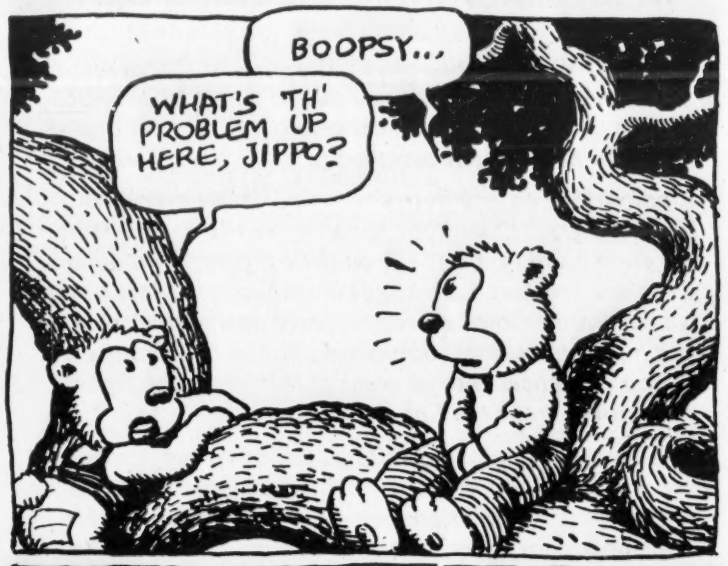

DIN'T EVEN HURT...

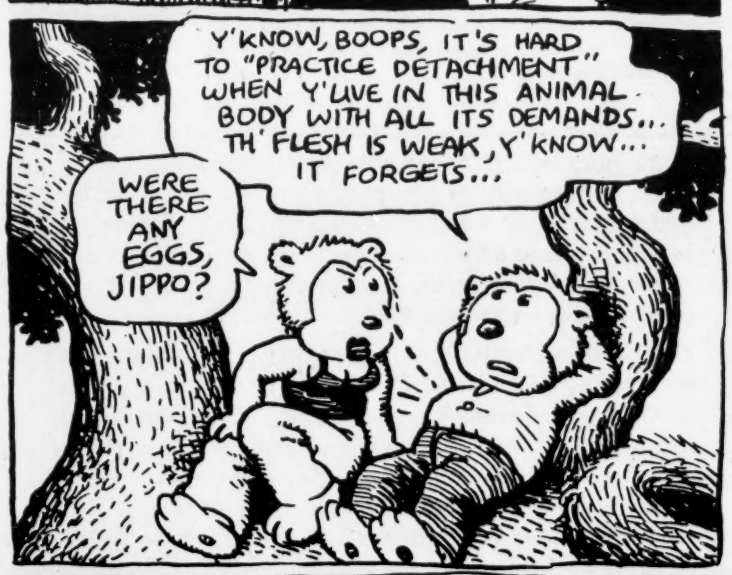
D'YOU FEEL BETTER NOW THAT YOU'VE POUNDED MY BUTT??
YUP... A HUNNERD PERCENT... RELEASED MY PENT-UP MALE AGGRESSION... HHEH HEH

WELL, ALL I CAN SAY IS IT'S A GOOD THING MY BUTT'S NOT TOO SENSI-TIVE...
REALLY! THERE'S NO TELLING WHAT MEANNESS I MIGHT GET INTO IF I DIDN'T HAVE THAT THING TO BEAT ON NOW 'N' THEN...

AKSHULLY IT FEELS GOOD WHEN YOU PUMMEL IT... IT'S INVIGOR-ATING...
TERRIFIC! THEN I DON'T HAFTO FEEL GUILTY AFTER I DO IT!
UH-UH!
I'M HUNGRY
OH YEAH? DON'T WORRY, I'LL FIND US SOMETHIN' TO EAT...
I SEE A BIRD'S NEST AWAY UP IN THIS OLD OAK TREE... MIGHT BE EGGS IN IT!
YUM YUM
I'LL CLIMB UP AN' TAKE A LOOK...
BE CARE-FUL!
WHEW! THAT NEST IS HIGHER UP THAN I THOUGHT!
AH HM! EGGS SURE ENUFF!
MMM... I'LL TAKE 'EM!
GLOM
BOOPSY WILL BE VERY PLEASED WITH— HEY WAIT! HOW WILL I CARRY THESE AN' CLIMB DOWN AT TH' SAME TIME!?

WHY'S HE TAKING SO LONG?? I GUESS I'LL HAFTO CLIMB UP THERE AN' SEE WHAT HE'S DOING!


BOOPSY...
WHAT'S TH' PROBLEM UP HERE, JIPPO?


Y'KNOW, BOOPS, IT'S HARD TO "PRACTICE DETACHMENT" WHEN Y'LIVE IN THIS ANIMAL BODY WITH ALL ITS DEMANDS... TH' FLESH IS WEAK, Y'KNOW... IT FORGETS...
WERE THERE ANY EGGS, JIPPO?

UH, YEAH, THERE WERE.... TWO EGGS, BUT I, UH... I REALIZED THERE WAS NO WAY I COULD CARRY 'EM WHILE I WAS CLIMBIN' DOWN SO I, UH... ATE 'EM!
YOU JERK!

UH-OH, HERE COMES TROUBLE! THAT'S A NASTY LOOKIN' BIRD!
LET'S GET OUTTA HERE!

SQUAWK!
GANG-WAY!
QUIT PUSHIN'!

SPLONK!
SPLA-LUNK!

YOU'RE NOT ONE BIT CUTE!
ALL IN ALL IT'S BEEN A GREAT LIFE...
BOP
THE END?

Human Characteristics and School Learning

It's Bloom's contention that differences in school learning are largely man-made and not due to a natural stratification of talent; the differences persist because the organization of education is designed to make them persist.

Bloom offers an alternative whereby nearly everyone gets "top grades" without lowering standards: students are given periodic feedback on their progress and opportunities to correct mistakes or inadequacies. Most of the studies Bloom draws on for evidence deal with elementary and high school level coursework, but he believes the theory is applicable to all areas of learning (with some reservation about the fine arts).

This is one of the most exciting books I've run across in my studies (for an M.A.). The man has impeccable credentials – any education major will have run across his name dozens of times. His emphasis on the importance of feedback is what originally made me think of submitting the book to you. –Steven A. Kvaal

Human Characteristics and School Learning
Benjamin S. Bloom
1976; 284 pp.

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Hightstown, NJ 08520
or Whole Earth

One implication of the theory is that *equality of learning outcomes* can be a goal of education rather than *equality of opportunity*. Such a goal suggests that teachers must find ways of giving each child the help and encouragement he needs when he needs it rather than ensuring identical treatment of all children. *Inequality of treatment* may be needed, at least at certain stages of the learning process, if children are to attain equality of learning outcomes. It means that the teachers and the instructional material and procedures should emphasize acceptable levels of learning for all children rather than be satisfied that each has been "treated" fairly and equally.

•

Modern societies no longer can content themselves with the *selection of talent;* they must find the means for *developing talent.*

Any Child Can Write

For an excellent example of exactly the sort of teaching Bloom describes in **Human Characteristics and School Learning** *here is Harvey Wiener's* **Any Child Can Write.** *Every parent who has any hopes for literate children should read it. The sad truth is, schools are not teaching children to write, even the simplest forms of expression. In one high school I know, seniors are offered a special course in filling out job applications, as many of them lack the skills necessary for even so basic a task as answering standard application-form questions! One of the commitments of parenthood is to take responsibility for our children's education, starting before school begins and continuing throughout the school years. No teacher has as much time, energy and interest to spare for a particular student as its own parent has, or should have. Wiener's book is an enjoyable, encouraging handbook for such a parent.*

One aspect of Bloom's theory that is clearly apparent in Wiener's practice is the importance of interaction between teacher (parent) and child. As Wiener points out, it is the parent's interest in details of the child's experience ("A frog? What color was it? Did it bite? What did it feel like?") that give the child a sense of the importance of his experience (and therefore himself) and the worth of communicating it. This is the basis for a child's future, at home, in school, in the great wide world – that he feel important and that his ideas and experiences are worth communicating. Yet so often from an early age children are denied this simple gift from the persons closest to them. In this respect the great value of Wiener's book goes beyond the teaching of writing. His activities and games all begin with the parent tuning in on the child's world, responding, appreciating, asking questions, offering related personal experiences, encouraging further description and narrative.

It's not a one-way street. Such a parent is bound to discover new and delightful insights and ideas in the child, and make the acquaintance of a unique and stimulating individual in a mere son or daughter.

Two suggestions:

If you are already at the difficult point where communication – interaction – between you and your child is awkward or non-existent, you have to take a deliberately low-key initiative. Exploit an incident – any incident, even a potentially negative one – and communicate your interest by contributing an off-hand experience of your own: "Oh god, I left my jacket on the playground once, and when I finally found it a mouse had built her nest in the pocket." Offer enough detail to spark some interest, hopefully to inspire curiousity ("Really? She had babies in it? What did you do?"). It may take several or many efforts, but eventually the child comes to see you are interested enough in his experiences – good or bad – to relate them to your own.

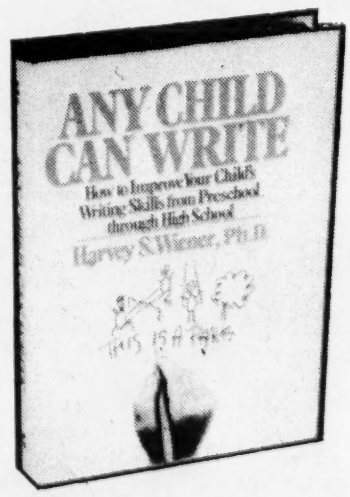
One often-neglected but most important element in communicating with children (or adults or any other animal, as Kipling well knew!) is eye contact. Even new-borns respond to it. Your eyes are your most effective means of non-verbal communication: they can belie or reinforce anything you say. Even the most "difficult" and withdrawn child will respond to a conspiratorial twinkle or appreciative glance from a total stranger and seek out that person's eyes when they meet again. You can control what your eyes are saying as accurately as you can your voice, and often with far more impact. "Across a crowded room" you can communicate approval, disapproval, excitement, expectant interest, comfort, admiration, fear, etc. To the child, this is the beginning of meaningful exchange, a special language between you two alone – "We have a secret, you and I . . ." Eye contact is the cornerstone of trust, and the bridge from there to words and friendship is a short, happy one.

–Carol Van Strum

Any Child Can Write
(How to Improve Your Child's Writing Skills from Preschool through High School)
Harvey S. Wiener, Ph.D.
1978; 255 pp.

$9.95 postpaid from:

McGraw-Hill Bk. Co.
Princeton Rd.
Hightstown, NJ 08520
or Whole Earth



Another activity has the child pretend that two familiar objects at home are having a brief conversation. Here's an example:

Mr. Scoop said, "Ice cream, I'm coming to get you!"

"No you're not! I'm too hard," replied Ice cream.

"Well, how will David have his dessert?" Mr. Scoop asked.

"All right," Ice cream said. "He's been good all week. I'll soften up."

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CoEvolution Quarterly — Winter '79 - '80 Financial Report

EXPENSES	Aug.,Sept.,Oct. (Predicted)	Aug.,Sept.,Oct. (Actual)	Nov.,Dec.,Jan. (Predicted)
Salaries and fees			
Office	$ 19,000	$ 18,537.11	$ 20,000
Production	7,000	9,334.64	11,500
Editors	8,000	8,258.64	8,000
Contributors	5,000	4,684.00	5,000
Office rental, materials, etc.	9,000	12,849.82	13,000
Phone	850	951.89	1,000
Promotion	3,500	3,895.04	20,000
Printing	33,500 (50,000 copies)	36,001.64 (50,000 copies)	36,000 (50,000 copies)
Subscription process and mail	18,000	20,202.91	20,000
Shipping	1,700	1,640.01	1,700
Business reply	1,500	1,600.00	2,000
Refunds	200	200.00	200
Total	$107,250	$118,155.70	$138,400
Unit cost (printing): $ .72			
Unit cost (total): $2.36			
INCOME			
Subscriptions, gifts and renewals	$ 70,000	$ 88,421.26	$ 95,000
Retaining and Sustaining	3,500	5,001.00	5,000
Back issue	5,000	9,429.25	4,000
Distribution	21,000	18,383.91	20,000
Total	$ 99,500	$121,235.42	$124,000
NET GAIN OR (LOSS)	($ 7,750)	$3,079.72	($ 14,400)

'Or Whole Earth'

That phrase under the access of an item in the **CQ** *means that you can mail order it from:*

Whole Earth Truck Store
c/o Zen Center
300 Page Street
San Francisco, CA
94102

Note: Please add $1 to any order to cover shipping and handling. Add 10% to foreign orders. Inquire for UPS or Air Mail postage charges. Anything other than items so listed — orders for books, maps, etc. published by **CQ** *or letters, material for the magazine, subscriptions, contributions, complaints, — should be sent to:*

The CoEvolution Quarterly
Box 428
Sausalito, CA 94965

POINT Financial Report

	PAST QUARTER Aug.,Sept.,Oct. 1979
CQ (detail above)	
INCOME	$121,235.42
EXPENSE	118,155.70
CQ Books	
INCOME	
Direct Mail-order	4,425.53
EXPENSE	
Production & Mail-Order Supplies	245.91
Catalog & Epilog	
INCOME	
Penguin-Viking	12,103.08
Direct mail-order	2,167.59
EXPENSE	
Production & Mail-Order Supplies	2,540.96
Maps, Posters, II Cybernetic Frontiers, Marbles, Postcards	
INCOME	7,842.94
EXPENSE	3,430.27
T-Shirts	
INCOME	5,904.25
EXPENSE	2,511.40
Miscellaneous	
INCOME	
Contribution	2,956.91
Disney-O'Neill lawsuit	60.00
EXPENSE	
Point, Miscellaneous	1,117.00
TOTALS	
INCOME	$156,695.72
EXPENSE	$128,001.24
NET GAIN (OR LOSS)	**$ 28,694.48**

POINT Balance Statement 31 Oct. 1979

ASSETS		Penguin Inventory	
Cash in bank	$ 47,855.99	CATALOGS ($1.73)	6,300.66
Investments	48,917.37	EPILOGS ($1.01)	18,799.13
Accounts Receivable		Pomegranate Inventory	
Distributors	40,585.87	Posters	2,000.00
		Miscellaneous	
INVENTORY		Paper at Waller	11,388.00
Back issues, CQ	153,384.31	T-Shirts	732.00
Maps, posters, marbles, I! Cybernetic Frontiers	977.05	LIABILITIES	
Mail-order LWEC & WEE	4,456.00	Accounts payable	-0-
Mail-order CQ books	656.25	Deferred SB salary	4,736.14
		Subscription liability	232,857.00

Announcing –

the Brand New (1980) WHOLE EARTH CATALOG

This is an opportunist, lazy organization. For years we've resisted the standing temptation to do a new version of the CATALOG because of the sheer labor involved. Then this fall Art Kleiner, a Cal journalism graduate who did fine articles for us on the history of magazines and computer networking, indicated he would like to work with us.

In the brutal/apologetic tones you would use asking someone to scrub the toilets, I said, "Art, how would you like to handle the compiling of a new WHOLE EARTH CATALOG? That includes working on the distribution deal and production and printing as well as contacting all of the old listees for their recent information and making final sense out of the doubtless conflicting evaluation messages from the editors."

"Sure," he said.

If he's that brave, I guess we can be. Now begins the sift through everything in the WHOLE EARTH CATALOG, the WHOLE EARTH EPILOG, and (by then) 26 issues of CoEVOLUTION QUARTERLY to identify, update, and assemble the best. It will have to be thorough – new prices, new addresses, new covers, new excerpts (from catalogs and magazines), and often new reviews.

And the whole must be new – new design, new sections, new pages, new cover, new index.

We'll need a new arrangement for distribution. Penguin probably has an inside track, but there's all new people there, so we don't know how much continuity we can expect. We would shoot for publication in time for Christmas 1980.

At this point we imagine a book the same format as the former WHOLE EARTH CATALOG. Probably bigger – 500 - 600 pages (more?). Sales, it's hard to say. The old CATALOG did 1.8 million. The EPILOG 250,000. I expect a new CATALOG would range somewhere between 100,000 and a million sales. (Barring disaster, always possible in show biz.)

Dunno the price yet. DO NOT ORDER. The point of this announcement is for everyone who has been reviewed in our past to please send in current material and information. Naturally, suggestions and reviews are also welcome. –SB

Magazines are distributed by monopolies

I own a bookstore with a magazine stand where I sell roughly 200 different magazines and I am constantly striving for better variety and quality.

In your article "Access to Magazines," you missed a critical issue. There is a monopoly that controls virtually ALL magazine distribution to retail stores in the Bay Area. For instance, Golden Gate Magazines' territory is the City and County of San Francisco. Retail stores in San Francisco must get **Time, Newsweek, Playboy, Motor Trend, Vogue**, etc. from Golden Gate Magazines. L/S Distributors has a few magazines. Serendipity Couriers has a few magazines. But Golden Gate must control at least 80% of the magazines sold in the City, and they have more competition than their brother distributors.

Milligan News controls Santa Clara County; Peninsula News controls San Mateo County; Nor Cal has the northern counties, and Cal-West has Alameda and Contra Costa Counties. These five distributors are being sued by the San Mateo County District Attorney's Office for conspiring to restrain trade in the wholesale magazine market in the Bay Area.

This monopoly effectively curtails free speech in the Bay Area. The monopoly does not carry **CoEvolution Quarterly, Mother Earth News, Organic Gardening, Audubon, Sierra, Not Man Apart, Feminist Review, Mothering, Yoga Journal**, etc., etc. I get **Mother Earth News** from L/S Distributors. This is the third most popular magazine in my store – behind **Playboy** and **Penthouse**. When I had **Oceanus**, I sold it, and if I had access to many of the magazines you reviewed, I could sell them, too.

The "counter culture" magazines are unavailable not because they are unpopular nor because the monopoly is trying to suppress them. These magazines are not readily available locally on retail stands because the monopoly is unresponsive to the demands of the general population. They distribute **TV Guide** because they make money that way. They don't distribute **Parabola** because they don't need the money. The monopoly makes a tremendous profit on magazines because they have no competition.

The newsstand price of **Newsweek**, for instance, is $1.25. I have to pay $1.00 a copy for **Newsweek**, and yet it is offered to subscribers at 57 cents a copy.

The magazine monopoly has too much control over the distribution of news. They have more control than the **Chronicle** or the **San Jose Mercury** or the **Oakland Tribune**, because their competition is almost non-existent.

Thanks for your time. Jon Florey
Florey's Book Company
Pacifica, California

U.S. POSTAL SERVICE
STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Required by 39 U.S.C. 3685)

1. TITLE OF PUBLICATION	A. PUBLICATION NO.	2. DATE OF FILING
The CoEvolution Quarterly	0 7 7 1 5 0	10/5/79
3. FREQUENCY OF ISSUE	A. NO. OF ISSUES PUBLISHED ANNUALLY	B. ANNUAL SUBSCRIPTION PRICE
quarterly	4	$12.00

4. LOCATION OF KNOWN OFFICE OF PUBLICATION *(Street, City, County, State and ZIP Code) (Not printers)*
27 Gate 5 Road Sausalito, MarinCounty, California 94965

5. LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS *(Not printers)*
Same

6. NAMES AND COMPLETE ADDRESSES OF PUBLISHER, EDITOR, AND MANAGING EDITOR

PUBLISHER *(Name and Address)*
POINT, a California non-profit corporation 27 Gate 5 Road Sausalito, CA 94965

EDITOR *(Name and Address)*
Stewart Brand 27 Gate 5 Road, Sausalito, CA 94965

MANAGING EDITOR *(Name and Address)*
---

7. OWNER *(If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.)*

NAME	ADDRESS
POINT	Box 428 (27 Gate 5 Rd.) Sausalito, CA 94965

8. KNOWN BONDHOLDERS, MORTGAGEES, AND OTHER SECURITY HOLDERS OWNING OR HOLDING 1 PERCENT OR MORE OF TOTAL AMOUNT OF BONDS, MORTGAGES OR OTHER SECURITIES *(If there are none, so state)*

NAME	ADDRESS
NONE	

9. FOR COMPLETION BY NONPROFIT ORGANIZATIONS AUTHORIZED TO MAIL AT SPECIAL RATES *(Section 132.122, PSM)*
The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes *(Check one)*

☒ HAVE NOT CHANGED DURING PRECEDING 12 MONTHS ☐ HAVE CHANGED DURING PRECEDING 12 MONTHS *(If changed, publisher must submit explanation of change with this statement.)*

10. EXTENT AND NATURE OF CIRCULATION	AVERAGE NO. COPIES EACH ISSUE DURING PRECEDING 12 MONTHS	ACTUAL NO. COPIES OF SINGLE ISSUE PUBLISHED NEAREST TO FILING DATE
A. TOTAL NO. COPIES PRINTED *(Net Press Run)*	50,000	50,000
B. PAID CIRCULATION 1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTER SALES	14,270	10,290
2. MAIL SUBSCRIPTIONS	24,409	25,217
C. TOTAL PAID CIRCULATION *(Sum of 10B1 and 10B2)*	38,679	35,507
D. FREE DISTRIBUTION BY MAIL, CARRIER OR OTHER MEANS SAMPLES, COMPLIMENTARY, AND OTHER FREE COPIES	1,186	1,097
E. TOTAL DISTRIBUTION *(Sum of C and D)*	39,865	36,604
F. COPIES NOT DISTRIBUTED 1. OFFICE USE, LEFT OVER, UNACCOUNTED, SPOILED AFTER PRINTING	8,371	13,396
2. RETURNS FROM NEWS AGENTS	1,764	0 (to date, 15% projected)
G. TOTAL *(Sum of E, F1 and 2 - should equal net press run shown in A)*	50,000	50,000

11. I certify that the statements made by me above are correct and complete. SIGNATURE AND TITLE OF EDITOR, PUBLISHER, BUSINESS MANAGER, OR OWNER: Audrea Shaw - Business Manager

12. FOR COMPLETION BY PUBLISHERS MAILING AT THE REGULAR RATES *(Section 132.121, Postal Service Manual)*

39 U. S. C. 3626 provides in pertinent part: "No person who would have been entitled to mail matter under former section 4359 of this title shall mail such matter at the rates provided under this subsection unless he files annually with the Postal Service a written request for permission to mail matter at such rates."

In accordance with the provisions of this statute, I hereby request permission to mail the publication named in Item 1 at the phased postage rates presently authorized by 39 U. S. C. 3626.

SIGNATURE AND TITLE OF EDITOR, PUBLISHER, BUSINESS MANAGER, OR OWNER
Audrea Shaw - Business Manager

PS Form 3526 Aug. 1978 *(Page 1)* (See instructions on reverse)

I think that the cover of this issue of the CQ is immoral because

1. It uses a symbol (swastika) that acquired its force and meaning from the murder of 12 million civilians and the devastation of Europe as an attention getting device, thereby showing a seeming indifference to the importance and evil of those events.

2. It looks like it's saying factory workers are fascists. It is especially important for a magazine with a staff and readership as far removed as CQ's is from the necessity of doing factory work to avoid making such a statement or appearing to make such a statement.

Because I don't want to be associated with this cover, I asked Stewart to take my writing out of this issue. The article by me that was going to appear — more answers to the "window" questions — has been removed. Some of my book reviews remain because it was too late to take them out when I made the request.

—Anne Herbert

Some CQ members who have seen the cover also have very strong objections to it, though they would not all state their objections as I have stated mine. They are:

Evelyn Eldridge-Diaz
David Burnor — Isabella Kirkland
Nancy Dunn — Kathleen O'Neill
Lorrie Gallagher — Donald Ryan
Andrea Sharp

Editor's lame reply

Reader, you are invited to comment on all this, and/or alter the cover art to taste, and/or work to improve or replace de-humanizing factory conditions.

While not delighted with the swastikas (they remind me of spelling America with a "k"), I am convinced they're integral to Crumb's idea. He's an old hand with American taboos and symbols, and just because I'm among the offended this time, I'm not about to censor him. Everything in the cover is in the poem — it's one artist's interpretation of another artist's work. And if CQ is marginally different from other publications, it is partly in our defense of the contributors' material from the depradations of insurance mentality or group think. That's how we got in trouble with Disney (I'd do it again).

Irrelevant explanation: the last time I seriously bucked the tide of office opinion was in hiring Anne Herbert for assistant editor. I lucked out that time and it made me cocky.

—SB

not Dan O'Neill

Gossip

Walt Disney Productions still seems to be moving, glacially, toward a settlement with Dan O'Neill and us in the Mouse Liberation Front fracas (a 4-page strip by O'Neill in No. 21 — Spring '79 — depicted Mickey and Minnie Mouse as married). Terms of the settlement probably involve us and O'Neill promising to print no more mice and Disney withdrawing its prior damage claims against O'Neill et. al. and its current suit. One recent Disney draft required that "the text of this Agreement shall not be published or made accessible to the public by any of the parties hereto or by their attorneys." We said no to that.

Many of you have sent unsolicited letters of complaint to Donn Tatum, President of Disney, and copies to us. They are heartwarming; thank you. I'm told a widely syndicated newspaper cartoon called "Travels with Farley" displayed a microscopic "MLF Strikes Again!" in its Oct. 8 number. No comment.

Isabella Kirkland made an unprecedented move from CQ's front office (business) to back office (production) to do layout and paste-up. "Heavily Punk Chorus," p. 118-120, showcases her abilities. Andrea Sharp visited her ancestral home in New York, remarking, "The difference between the New York **Times** and the San Francisco **Chronicle** is that the **Times** is exciting when there's news and boring otherwise, and the **Chronicle** is the opposite." Peter Warshall, in a blaze of farewell parties, has removed entire to settle in Tucson, Arizona, and will continue to contribute from there. J. Baldwin and Kathl Whittacre are on Cape Cod for a hard-working winter with the New Alchemists (see p. 56). Their tinker's heaven of a new shop truck is reportedly a wonder. I got to sail from Puget Sound on the three-masted square-rigger Regina Maris and can report that tall ships sway like a metronome (seasick seven times, I was) and porpoises phosphorescing down the front of a swell at night look like a flight of comets. Anne Herbert, sweating away on her novel and a Rising Sun Neighborhood Newsletter book, now has an agent — Katinka Matson of John Brockman Associates, New York.

Hamilton Solar Village, the visionary proposal for a defunct military air base in Marin County that we published last issue, was on the local ballot this November. It lost — 47% of the vote. However, so did two measures calling for an airport at Hamilton, so we're back to square one (and possibly another vote in June).

The wonderful "STOP METRIC MADNESS" T-shirt we reviewed last issue changed its address, and some of you may have been frustrated by the indifferent forwarding of orders. You can now get the shirts (for $6) from: Americans for Customary Weight and Measure, 47 West St., New York, NY 10006. In other access-update, Ken Kesey's slow but steady **Spit in the Ocean** has a fine new issue with all his adventures in Egypt and "Prayer Five" of his forthcoming novel — $3.50 for current issue, $20 for the eventual total of seven, from: 85829 Ridgeway Rd., Pleasant Hill, OR 97401.

To acquaint your aging beatnik editor with the San Francisco punk/new wave scene (p. 112) Jonathan Evelegh and Isabella Kirkland escorted me to the Temple Beautiful for an evening of punk — The Plugz (3 L.A. guys, structural din), The Members (British — tight unison shouting), and The Dead Kennedys (lead Jello Biafra flings self into crowd repeatedly).

Did I like it? Well, you got to consider I was around for the beginning of the SF rock dynasty, knew The Grateful Dead when they were The Warlocks, etc. And I'm on the board of Bread and Roses, welcome backstage with Joan Baez, Pete Seeger, the Persuasions, etc. I've liked those scenes, felt honored to be there. I like this one better.

For every reason. The music is a rawer start-over, resisting more seductive predecessors (my bunch). The audience is far closer to the performers and to each other — there's a warm camaraderie in the clubs. And that doctrinaire "love" that polluted the entire '60s is wholly absent. It was a fake love, a show love, that led to real violence. The show violence of punk is good explosive theater, exposing a paradoxical sweetness to the night. I saw a lot of alert young humans there. I'm going back.

Thanks to all this, the other night I dreamt I was a member of a country & punk band. My instrument was chainsaw. At the correct musical moment I would fire it up BRRAAAAPP!!! and have at the stage itself.

—SB

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A The Marble $4.50

Hand-crafted by Marquis Deluxe Studios on special order for **CoEvolution**, this is the marble we used on the cover of the "Whole Earth Jamboree" issue (Winter '78). Some see it as art — an inner Earth — some as fine jewelry, some as a superior shooter.

B Whole Earth postcards
Ten cards — $3

Like the T-shirts this item evolved from private to public use. For short notes **CQ** has long used this bright, sharp Earth image on our postcards. You requested them for your own notes. Here they are.

C CoEvolution T-shirt $6

These were such a popular item at the Whole Earth Jamboree that we've gone into a third printing. The shirts are 100% cotton and will shrink slightly. The design, surprisingly sharp and realistic, is by **CQ** regulars David Wills and Kathleen O'Neill. Five sizes to fit **any** body:

For boys or small women
XSmall — 16 - 18

Men's sizes
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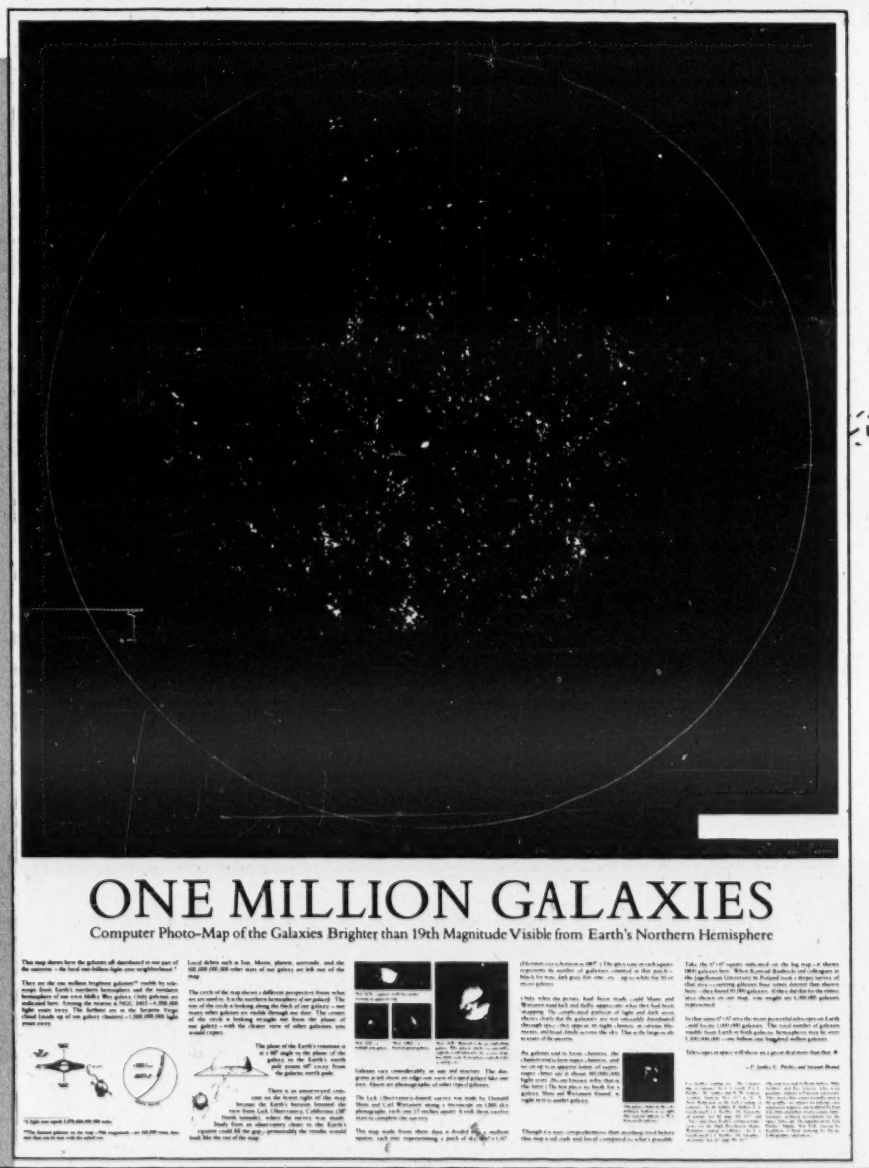

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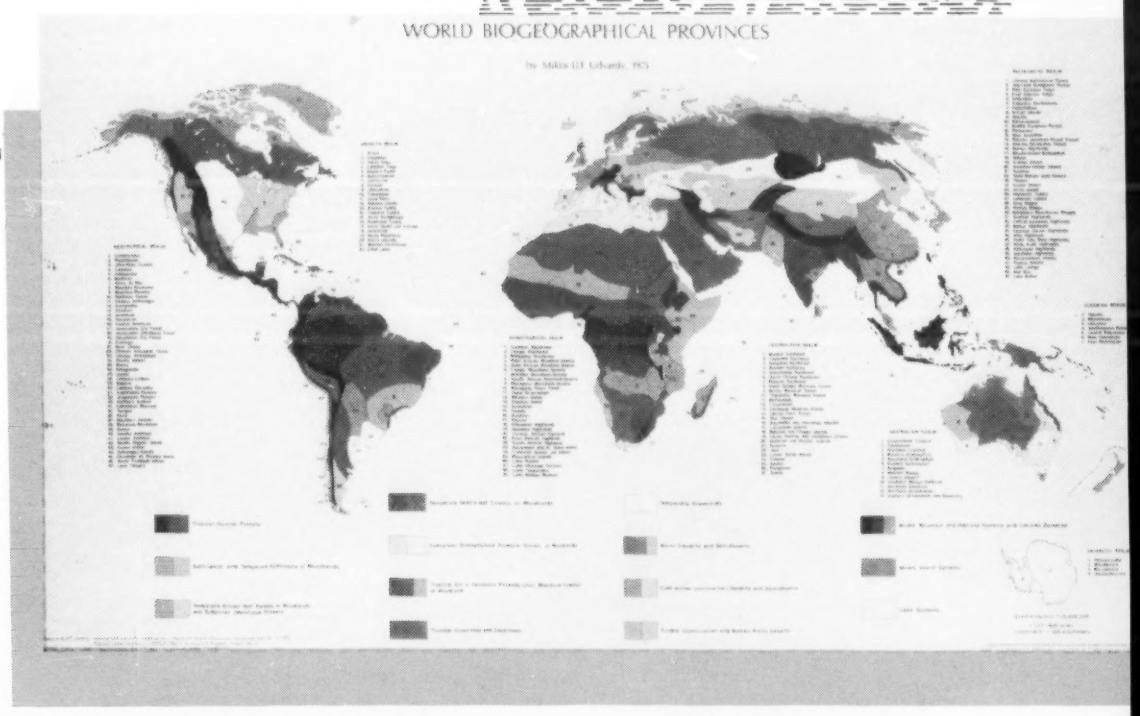
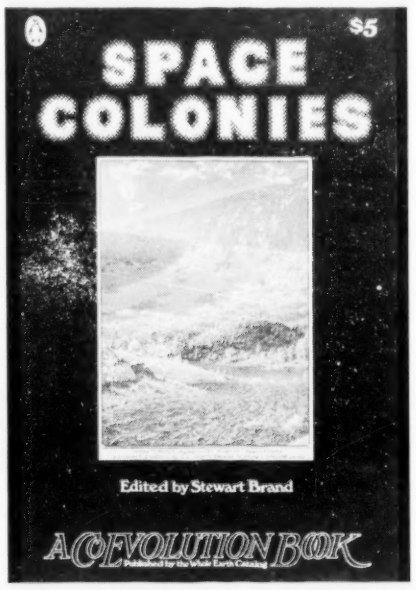


E World Biogeographical Provinces map 22½" x 29" $3.50

The first two printings sold out. This third printing includes Antarctica, corrects a few errors and has even sharper colors. You get a reprint of Raymond Dasmann's "Biogeographical Provinces" articles with the map. 22½" x 39", mailed in a tube.

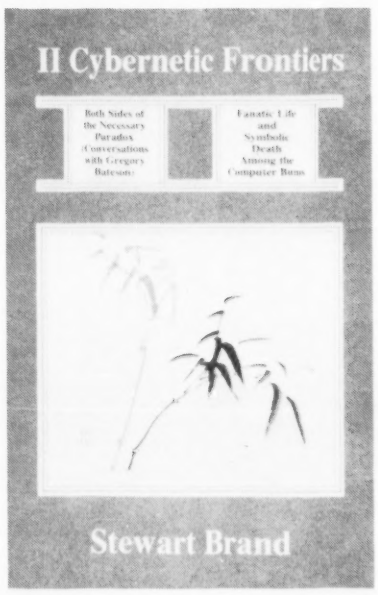
F Soft Tech book $4.50

Here assembled is all of the best we've seen of solar, wind, small, inventive, decentralized ingeniousness. Includes material findable nowhere else: Nitinol (the astonishing "heat-muscle" alloy); underground architecture; and editor J. Baldwin's peerless "Highly Evolved Toolbox." 176 pages, indexed.



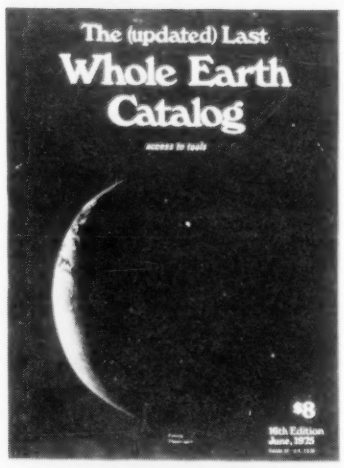
G Space Colonies book $4.50

The space colony dream and current space efforts reported and evaluated from within by physicist Gerard O'Neill, astronaut Rusty Schweickart, Carl Sagan, Governor Jerry Brown, along with Jacques Cousteau, E.F. Schumacher, Ken Kesey, Gary Snyder, David Brower, Paul Ehrlich, Paolo Soleri, William Irwin Thompson, Richard Brautigan, John Holt, John Todd, and R. Buckminster Fuller. 160 pages, indexed.



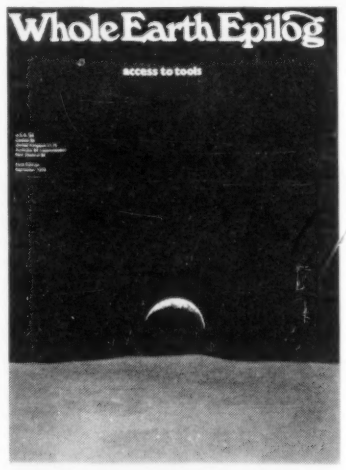
H Two Cybernetic Frontiers $2

During the 2-year hiatus between the **Whole Earth Catalog** and **Whole Earth Epilog** I did nothing but two pieces of reporting. They are: "Both Sides of the Necessary Paradox (Conversations with Gregory Bateson)" and "Fanatic Life and Symbolic Death Among the Computer Bums." 96 pages. —SB



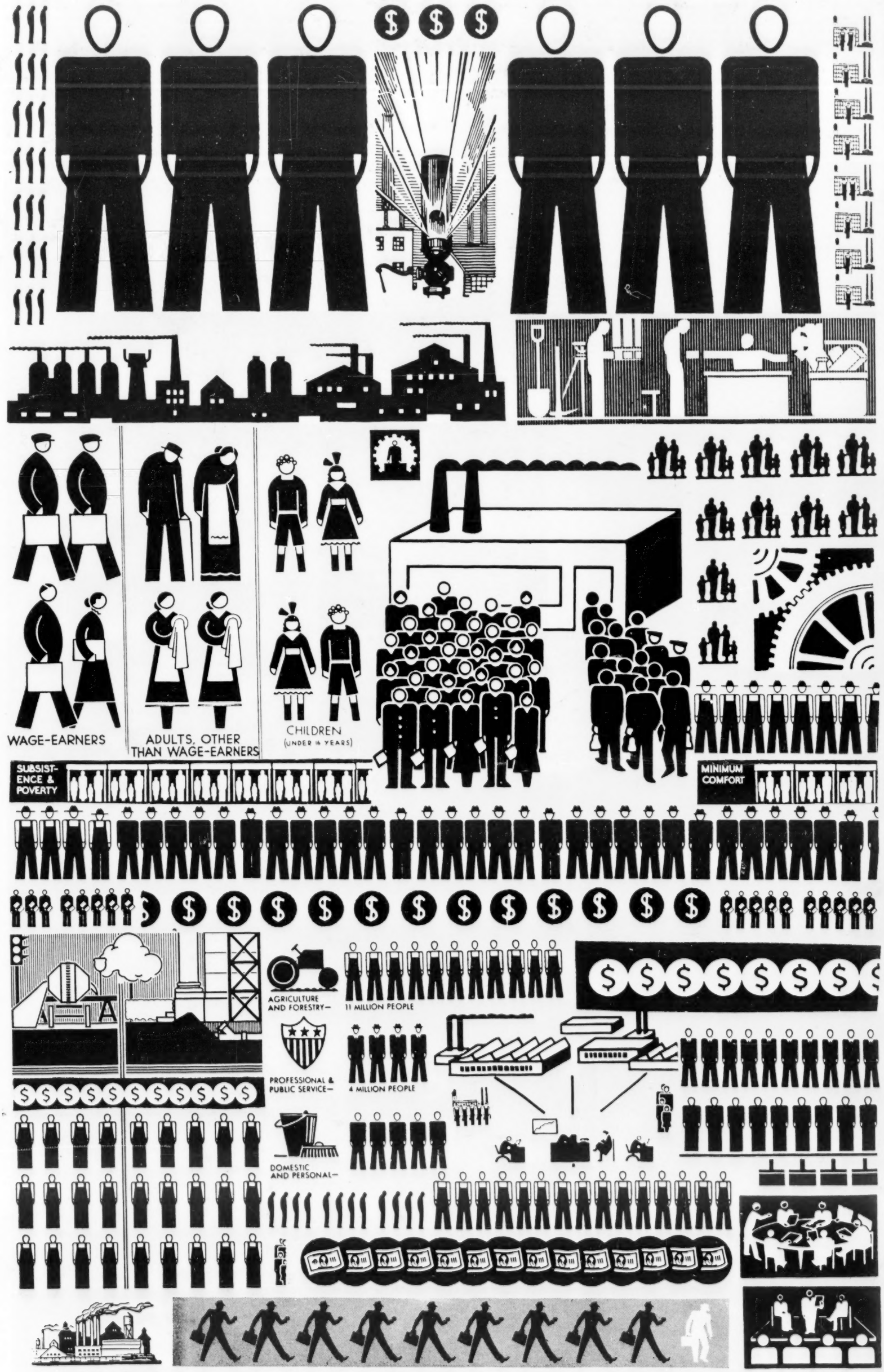
J Whole Earth Catalog $8

Winner of the 1972 National Book Award, the **Catalog** functions as an evaluation and access device. It contains reviews of books and tools in the original Whole Earth categories: whole systems, community, shelter, craft, nomadics, communications, land use and learning.



K Whole Earth Epilog $4

The **Epilog** is, in effect, Volume II of the **Catalog**. It begins with page 449, and contains 320 pages of all new material, cross-referenced and cross-indexed to the **Catalog**.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